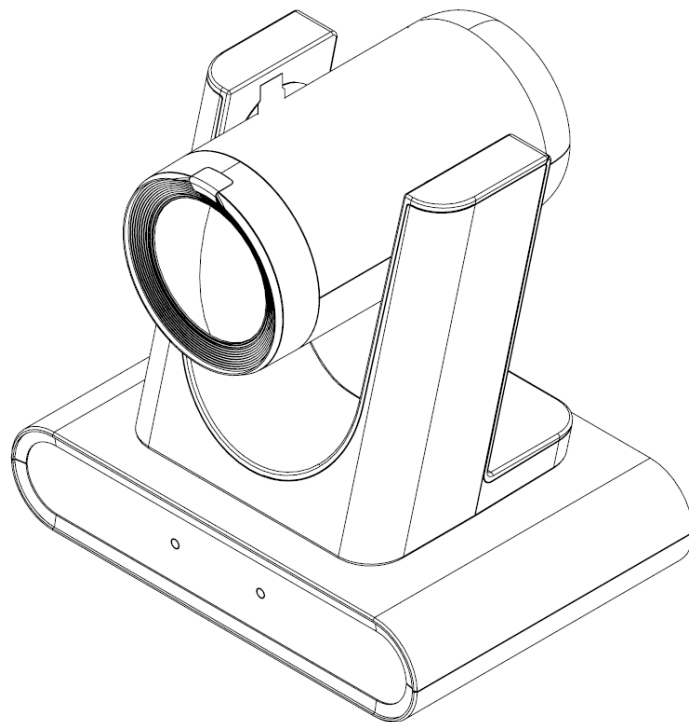


VC-TR60/ VC-TR60, Dante AV-H

Auto Tracking Camera

(PTZ Video Camera)

User Manual - English



Version VXY020X



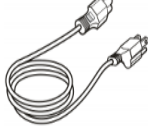
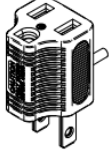
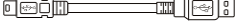
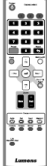

[Important]

To download the latest version of Quick Start Guide, multilingual user manual, software, or driver, etc., please visit Lumens
<https://www.MyLumens.com/support>

Table of Contents

| | | |
|------------------|--|-----------|
| Chapter 1 | Package Contents..... | 2 |
| Chapter 2 | Product Overview | 3 |
| 2.1 | I/O functions Introduction..... | 3 |
| 2.2 | Description of LED indicator | 3 |
| Chapter 3 | Instruction for installation..... | 4 |
| 3.1 | Scenario..... | 4 |
| 3.2 | Preparation before installation | 4 |
| 3.3 | Instruction for installation | 4 |
| 3.4 | Connecting devices..... | 7 |
| Chapter 4 | Remote Control and Setting Menu | 9 |
| 4.1 | Remote Control | 9 |
| 4.2 | Setting Menu | 10 |
| Chapter 5 | Network Function Settings Description | 14 |
| 5.1 | Connecting Camera to Network | 14 |
| 5.2 | Web Page Menu Function Description | 16 |
| Chapter 6 | Troubleshooting | 36 |
| Chapter 7 | Safety Instructions | 37 |
| | Copyright Information..... | 38 |

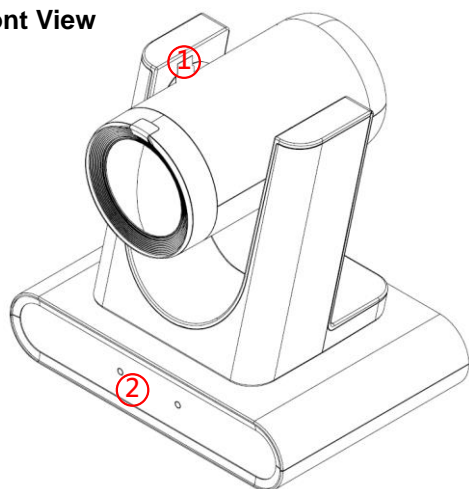
Chapter 1 Package Contents

| | | | |
|---|---|---|---|
| Camera | Power Adapter | Power Cord | 3-PIN to 2-PIN connector |
|  |  |  <p>Appearance may vary depending on country/region</p> |  <p>(For Japan only)</p> |
| USB cable - 2M (Type B to Type A) | Remote Control | RS232/RS422 Connection Instruction | |
|  |  |  | |

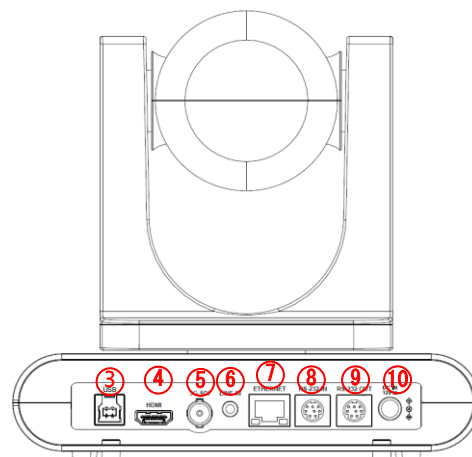
Chapter 2 Product Overview

2.1 I/O functions Introduction

Front View



Back View



| NO. | Item | Function Descriptions |
|-----|-----------------------------|---|
| 1. | Main camera lens | HD camera lens |
| 2. | Power/Standby LED indicator | Displaying the status of the camera, please refer to 2.2 Description of LED indicator |
| 3. | USB Port | The USB port is for connecting to the USB port of the computer and providing USB signal images |
| 4. | HDMI output | HDMI output (Audio output supported) |
| 5. | 3G-SDI output | 3G-SDI output (Audio output supported) |
| 6. | Audio In | 3.5 mm LINE IN |
| 7. | Network port | Network cable port, supporting PoE (IEEE802.3at) power supply |
| 8. | RS-232 input | RS-232 input port, at most 7 cameras can be connected in a serial connection |
| 9. | RS-232 output | RS-232 output port, at most 7 cameras can be connected in a serial connection |
| 10. | DC 12 V power Port | DC supply connecting port |

2.2 Description of LED indicator

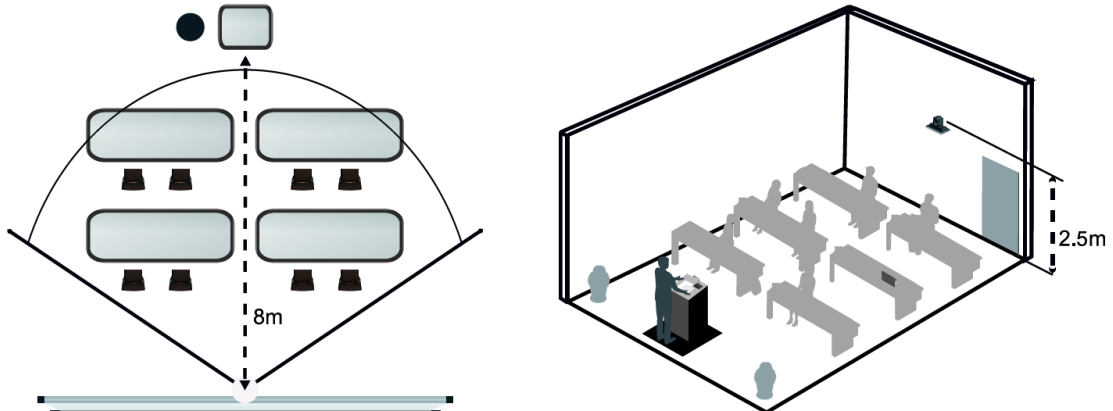
| Status | Power | Standby |
|---------------------------------|------------------------|------------------------|
| Startup in progress | Green light | Orange light |
| In use | Green light | No indicator |
| In standby mode | No indicator | Orange light |
| Tracking / Auto Framing mode | Flickering green light | Flickering green light |

Chapter 3 Instruction for installation

3.1 Scenario

3.1.1 Best tracking target distance recommended: 8 m

3.1.2 Best height recommended: 2.5 m



<Note> For maintaining the best tracking results, please avoid images of people on posters, screens, monitors, TVs in the background

3.2 Preparation before installation

Installation and connection of HD camera requires special skills. To install by yourself, please follow necessary steps, ensure steady and tight installation of the device, and pay attention to your safety to avoid any accident.

3.2.1 Ensure the safety of the installation environment. Please do not install the device on unstable ceiling or in a place where the device is in danger of falling to avoid any accident.

3.2.2 Please check whether accessories in the box are complete or not. Please contact the supplier for any shortage, and make sure to keep the accessories in the box intact.

3.2.3 Please choose a proper place for installation of camera in advance. Please determine an installation place according to the following requirements

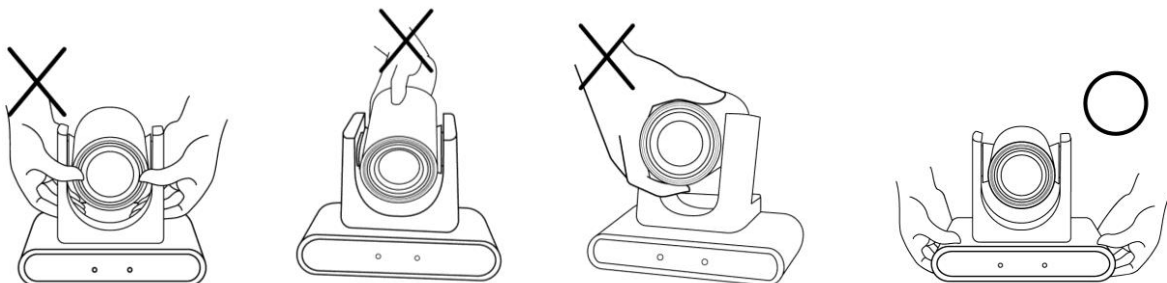
- Confirm the position for the object to be captured.
- Confirm whether the camera is set at a proper distance from other light sources.

3.3 Instruction for installation

3.3.1 I would like to install camera on the desk

3.3.1.1 Precautions for installation

- Please install the machine on a flat desk
- Do not grab the camera head by hand when handling the device
- Do not rotate the camera head by hand. Improper rotation may result in breakdown of the camera



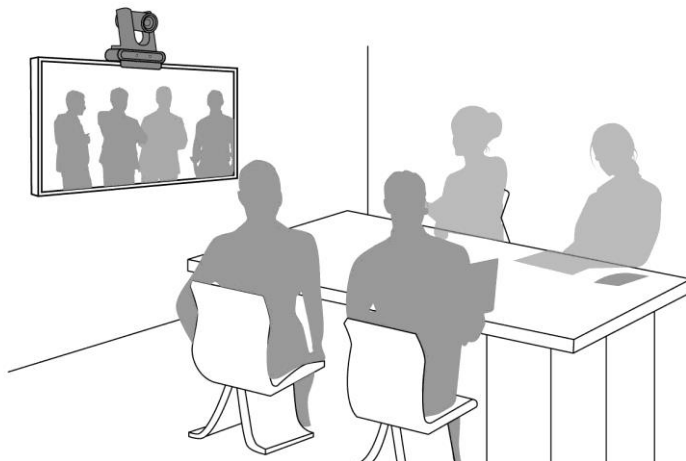
3.3.2 I would like to install the camera on the ceiling/wall/TV stand

Lumens can provide the following optional accessories. Please contact your Lumens distributor if needed for purchase

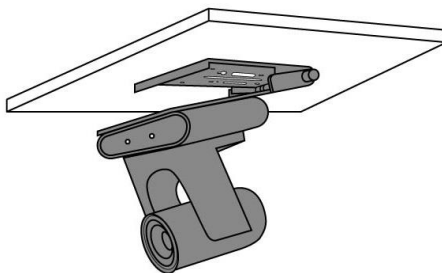
- VC-WM14 3 in 1 Folding Bracket
- VC-WM15 Ceiling Mounted Bracket

For installation of brackets, please download [VC-WM14/VC-WM15 Quick Installation Guide](#) from the Lumens website

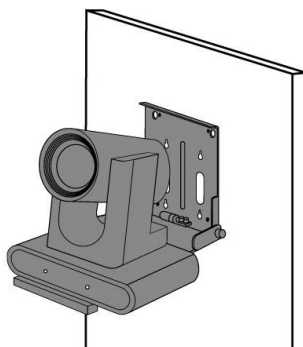
◆ Install on the TV



◆ Install on the ceiling

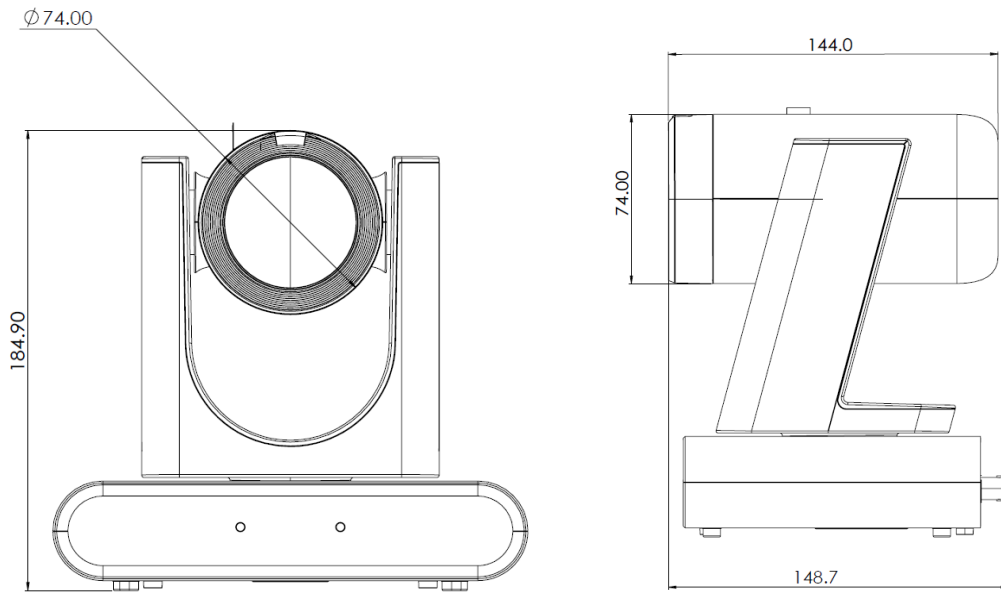


◆ Install on the wall



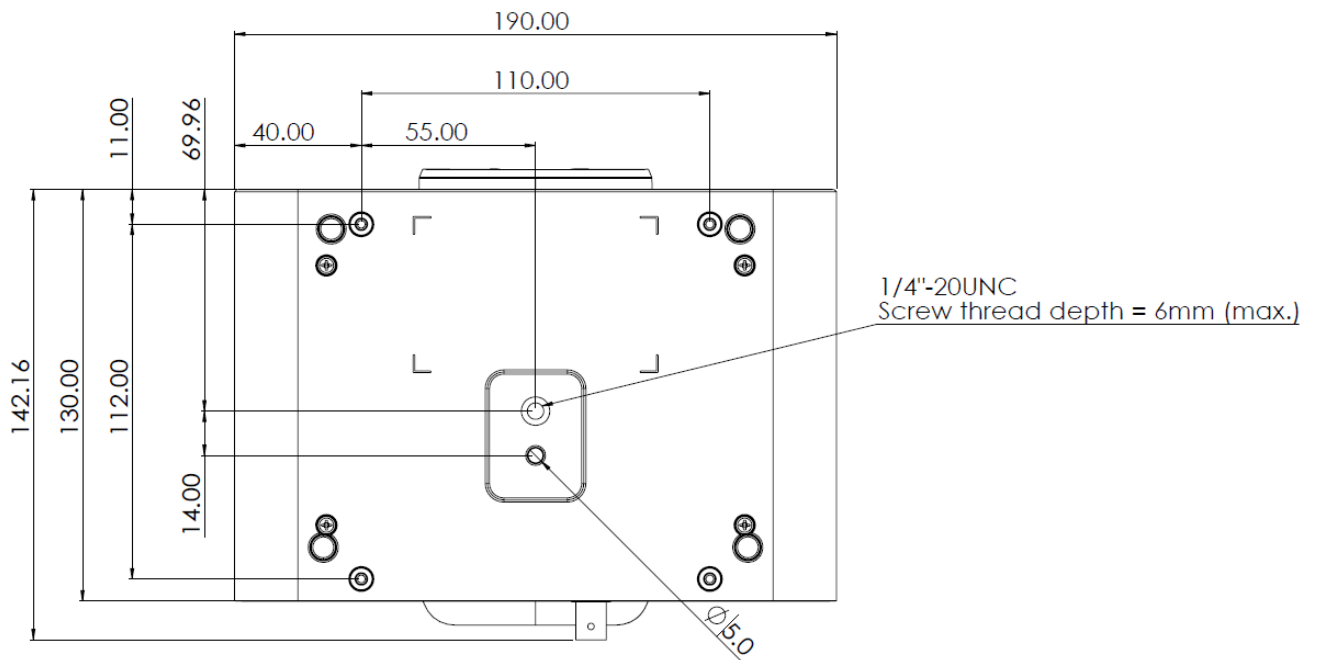
3.3.3 Camera Size

- Length x Width x Height: 190 x 149 x 185 mm
- Weight: 1.6 Kg

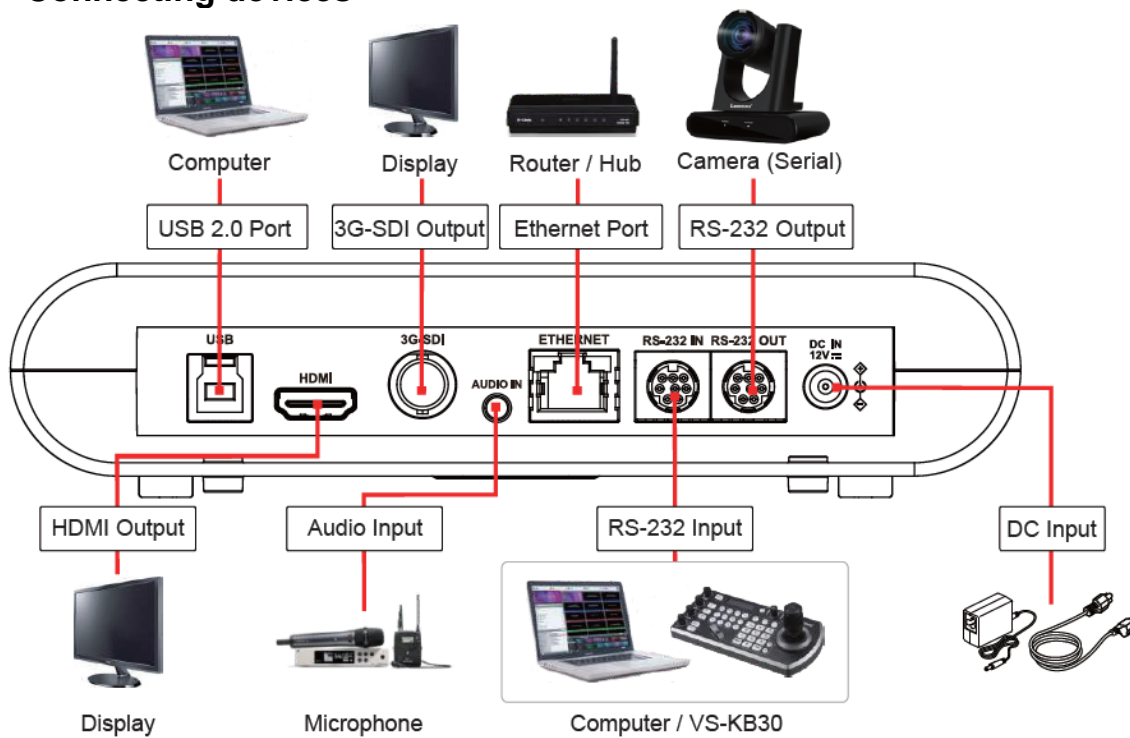


3.3.4 Dimensions of the bottom of the machine

The camera can be mounted on a 1/4" - 20 UNC PTZ tripod deck by using the lock holes on the bottom for the tripod

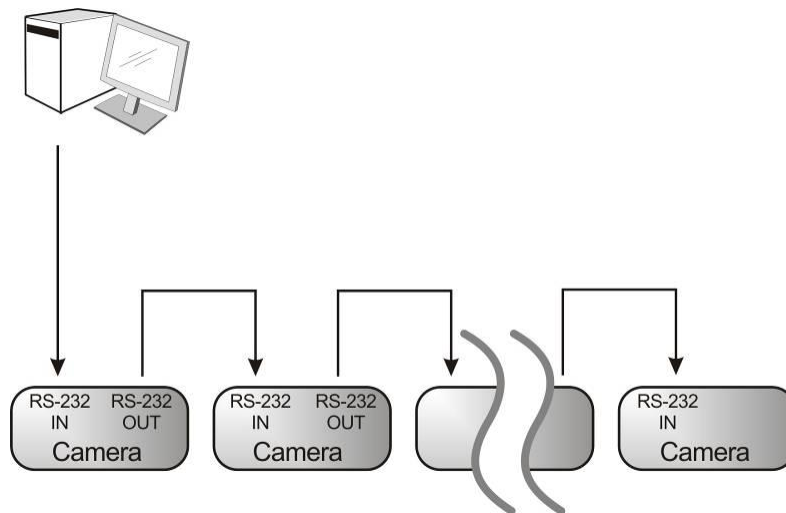


3.4 Connecting devices



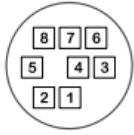
<Remark> Network cable port, supporting PoE (IEEE802.3at) power supply

3.4.1 RS-232 connection (at most 7 Lumens cameras can be connected)



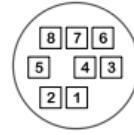
■ RS-232 pins definition instructions

▼ RS-232 IN Pins Instructions



| NO | Pins | Signals |
|----|--------|-------------------------|
| 1 | DTR | Data Transmission Reade |
| 2 | DSR | Data Set Reade |
| 3 | TXD | Transmit Data |
| 4 | GND | Ground |
| 5 | RXD | Receive Data |
| 6 | GND | Ground |
| 7 | IR OUT | IR Commander Signal |
| 8 | N.C. | No Connection |

▼ RS-232 OUT Pins Instructions



| NO | Pins | Signals |
|----|------|-------------------------|
| 1 | DTR | Data Transmission Reade |
| 2 | DSR | Data Set Reade |
| 3 | TXD | Transmit Data |
| 4 | GND | Ground |
| 5 | RXD | Receive Data |
| 6 | GND | Ground |
| 7 | OPEN | Reserved |
| 8 | OPEN | Reserved |

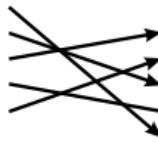
▼ RS-232 Connection Instructions

RS-232 IN of VC

1. DTR
2. DSR
3. TXD
4. GND
5. RXD
6. GND
7. IR OUT
8. N.C.

RS-232 of PC

1. CD
2. RXD
3. TXD
4. DTR
5. GND
6. DSR
7. RTS
8. CTS
9. RI



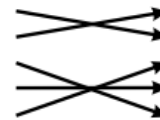
▼ RS-232 Connection Instructions

RS-232 IN of Next Camera

1. DTR
2. DSR
3. TXD
4. GND
5. RXD
6. GND
7. IR OUT
8. N.C.

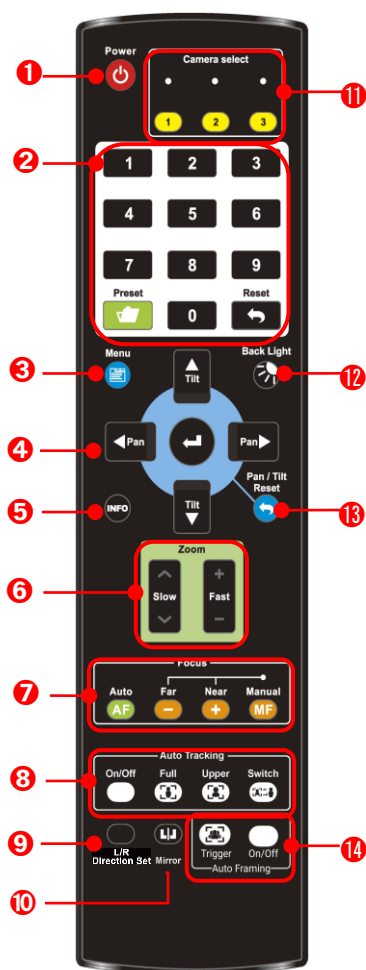
RS-232 OUT of Last Camera

1. DTR
2. DSR
3. TXD
4. GND
5. RXD
6. GND
7. OPEN
8. OPEN



Chapter 4 Remote Control and Setting Menu

4.1 Remote Control



| No. | Item | Description |
|-----|-------------------|---|
| 1. | Power | Power Switch |
| 2. | Preset | <ul style="list-style-type: none"> Numeric Keys 0 - 9: Click to call the preset Preset: Appoint an ID (0 ~ 9) to save the current position data Reset: Appoint an ID (0 ~ 9) to delete the current position data |
| 3. | Menu | Display OSD menu |
| 4. | Pan/Tilt/Enter | <ul style="list-style-type: none"> Pan/Tilt: Move the lens Home-Enter: Go back to the main page / Execute |
| 5. | Info | Status information |
| 6. | Zoom | <ul style="list-style-type: none"> Fast: Adjust image size Slow: Fine-tune image size |
| 7. | Focus | <ul style="list-style-type: none"> Auto: Auto focus Manual: Enable Manual Focus Far/Near: Adjust the focal length in Manual |
| 8. | Auto Tracking | <ul style="list-style-type: none"> On/Off: Enable/Disable Auto Tracking Full: Full body tracking Upper: Half body tracking Switch: Switch tracking object |
| 9. | L/R Direction Set | L/R Direction / Normal |
| 10. | Mirror | Rotate the image (OFF / Mirror / Flip / Rotate) |
| 11. | Camera select | Choose camera ID 1 ~ 3 |
| 12. | Back Light | Turn on/off back light compensation |
| 13. | Pan/Tilt Reset | Clear the Pan/Tilt setting |
| 14. | Auto Framing | <ul style="list-style-type: none"> On/Off: Enable/Disable Auto Framing Trigger: Manual framing correction |

4.2 Setting Menu

<Remark> Press [**Menu**] on the **remote control** to enter the setting menu; the **bold underlined** values in the following table are defaults.

| 1 st Level Major Items | 2 nd Level Minor Items | 3 rd Level Adjustment Values | Function Descriptions |
|--------------------------------------|--------------------------------------|--|--|
| Exposure | Mode | <u>Full Auto</u> / Shutter Pri / Iris Pri / Manual / White Board | Exposure mode setting |
| | Exposure Comp. | On / <u>Off</u> | Turn on/off Exposure Comp. |
| | Exposure Comp. Level | -6~ <u>C</u> ~4 | The value can be adjusted after Exposure Comp. is activated |
| | Shutter Speed | 1/10000~1/1 | Adjustable when the Exposure mode is set to Shutter Pri or Manual |
| | Iris Level | F1.8~ <u>C</u> ~F11 / Close | Adjustable when the Exposure mode is set to Iris Pri or Manual |
| | Gain Limit | 8~ <u>30</u> dB | Max. limit value of electron gain |
| | Gain Level | <u>0</u> ~45dB | Adjustable when the Exposure mode is set to Manual |
| | WDR | <u>Off</u> / 1 / 2 / 3 | WDR settings |
| White Balance | Mode | <ol style="list-style-type: none"> 1. <u>Auto</u> 2. Indoor 3. Outdoor 4. One Push WB 5. ATW 6. Manual 7. Sodium Lamp | Select the color temperature mode <ol style="list-style-type: none"> 1. 4000k ~ 7000k 2. 3200k 3. 5800k 4. 1700k ~ 10000k 5. 1700k ~ 10000k 6. Custom 7. 2800k |
| | One Push Trigger | <u>ENTER</u> | One push trigger |
| | Manual Red | 0~ <u>C</u> ~128 | Adjustable when the white balance mode is set to Manual |
| | Manual Blue | 0~ <u>C</u> ~128 | Adjustable when the white balance mode is set to Manual |
| Tracking | Type | <u>Auto Tracking</u> / Auto Framing | |
| Picture | 3D NR | Off / Low / <u>Standard</u> / Highest | 3D noise reduction |
| | Image Mode | <u>Default</u> / Custom | The user may customize his/her desired image mode |
| | Gamma | 0~ <u>C</u> ~3 | Adjustable when the Image mode is set to Custom |
| | Brightness | 0~ <u>C</u> ~25 | Adjustable when the Image mode is set to Custom |
| | Contrast | 0~ <u>C</u> ~25 | Adjustable when the Image mode is set to Custom |

| 1 st Level Major Items | 2 nd Level Minor Items | 3 rd Level Adjustment Values | Function Descriptions |
|--------------------------------------|---|--|--|
| | Saturation | 0~ <u>C</u> ~25 | Adjustable when the <i>Image mode</i> is set to Custom |
| | Sharpness | 0~ <u>C</u> ~11 | Adjustable when the <i>Image mode</i> is set to Custom |
| Pan Tilt Zoom | Pan/Tilt Limit | On / <u>Off</u> | Turn on/off the angle limit setting |
| | Pan Right Limit | 0~ <u>170</u> | Limit the right angle |
| | Pan Left Limit | <u>-170</u> ~0 | Limit the left angle |
| | Tilt UP Limit | 0~ <u>90</u> | Limit the upward angle |
| | Tilt Down Limit | <u>-30</u> ~0 | Limit the downward angle |
| | Pan Flip | On / <u>Off</u> | After it is activated, the Pan command will be reverse |
| | Tilt Flip | On / <u>Off</u> | After it is activated, the Tilt command will be reverse |
| | Preset Speed | 5 / 25 / 50 / 80 / <u>120</u> deg/sec | Set the PTZ rotation speed when Preset is performed |
| | PTZ Speed Comp | On / <u>Off</u> | Set the Pan/Tilt moving speed to vary from the zoom position |
| | D-Zoom Mode | Digital Zoom / Sensor Zoom | Set the zoom mode |
| D-Zoom/Sensor Zoom Limit | Digital Zoom: <u>x1</u> ~ x8 Sensor Zoom: <u>x1</u> ~ x3 | Select the zoom mode to set the zoom limit | |
| D-Effect | Mirror | <u>Off</u> / Mirror / Flip / Mirror + Flip | Set the mode at which the image is turned |
| Auto Focus | AF Sensitivity | Low / <u>Mid</u> / High | For AF triggering speed, the higher the speed is, the faster AF is triggered |
| | AF Frame | Center / <u>Full Frame</u> | AF frame setting, when Central was set as AF frame, focusing will be on the center of the screen. When Full Frame was set as AF frame, focusing will be calculated based on the full screen |
| | Zoom Tracking | On / <u>Off</u> | This function can be set in the Manual Focus (MF) mode In Manual Focus mode, check whether focus is enabled during lens zooming |
| | PTZ Assist | On / <u>Off</u> | This function can only be enabled in the Manual Focus (MF) mode When PTZ Assist is enabled and PTZ control is in operation, the focus will be triggered. The focus will not be triggered when the scene changes |
| Ethernet | DHCP | <u>On</u> / Off | Enable/disable the dynamic host configuration |

| 1 st Level Major Items | 2 nd Level Minor Items | 3 rd Level Adjustment Values | Function Descriptions |
|--------------------------------------|--------------------------------------|--|---|
| | IP Address | <u>192.168.100.100</u> | Configurable when DHCP is set to Off |
| | Subnet Mask | <u>255.255.255.0</u> | |
| | Gateway | <u>192.168.100.254</u> | |
| Audio | Audio Enable | On / <u>Off</u> | Turn on/off audio output |
| | Audio In | <u>Line In</u> | |
| | Audio Volume | 0~ <u>C</u> ~10 | Audio Volume Setting |
| | Audio Delay | On / <u>Off</u> | When the audio is not synchronized with the video, enable this function to set the audio delay time |
| | Audio Delay Time (ms) | <u>-10</u> ~-500ms | Set audio delay time |
| | Encode Sample Rate | <u>48</u> KHz (AAC) | Set the encode type and sample rate |
| System | Prompt | On / <u>Off</u> | Turn on/off the prompt information on the display |
| | IR Receive | <u>On</u> / Off | Turn on/off the infrared reception When it is Off, the remote control will not be able to control the camera. At this moment, turn off and then turn on the power to restore control of the remote control. |
| | IR Select | <u>1</u> / 2 / 3 | Camera IR Select setting must be the same setting as the Camera Select of the remote control to control the camera |
| | Tally Lamp | On / <u>Off</u> | Select to enable or disable Tally Lamp function. |
| | Tally CMMD Mode | Normal / <u>Link</u> | Set whether the indicator light is linked with RS232 command <ul style="list-style-type: none"> ▪ Normal (Not linked): The indicator light switch and mode shall be set separately. <ul style="list-style-type: none"> · When the indicator light is on and the default mode is off, additional command is required to set the indicator light mode · Setting indicator light mode when the indicator light is off will not trigger the indicator light ▪ Link: <ul style="list-style-type: none"> · When the indicator light is on, the default mode is red light · Setting indicator light mode when the indicator light is off will turn on the indicator light |
| | Language | <u>English</u> / Chinese | |
| | Initial Position | <u>Last MEM</u> / 1st Preset | Select the camera lens to return to the |

| 1 st Level Major Items | 2 nd Level Minor Items | 3 rd Level Adjustment Values | Function Descriptions |
|--------------------------------------|--------------------------------------|--|--|
| | | | Last MEM position or the 1st Preset position after POWER ON <Remark> 1 st Preset = Preset 0 |
| | Motionless Preset | On / Off | When the function is enabled, the screen will Freeze when Preset is executed. Freeze will be released after Preset is completed |
| | Privacy Mode | On / Off | Enable/Cancel Privacy Mode After the function is enabled, when the camera is turned off via the remote control or software, the lens will automatically turn to the bottom right to ensure the user's privacy |
| | Protocol | VISCA | VISCA/PELCO D protocol is supported |
| | Baud Rate | 9600 /38400 | Choose the transmission speed of the control signal |
| | VISCA Address | 0 ~7 | The camera ID address can be assigned. Select 0 for automation. |
| | HDMI | 2160P 59.94 /50/29.97/25 1080p 59.94/50/29.97/25 720p 59.94/50/29.97/25 1080i 59.94/50 | Select the HDMI output resolution |
| | SDI | 1080p/59.94 /50/29.97/25 720p 59.94/50 1080i/59.94/50 | Select the SDI output resolution |
| | Factory Reset | On / Off | Resume the factory default setting |
| Status | | | Display the current setting status |

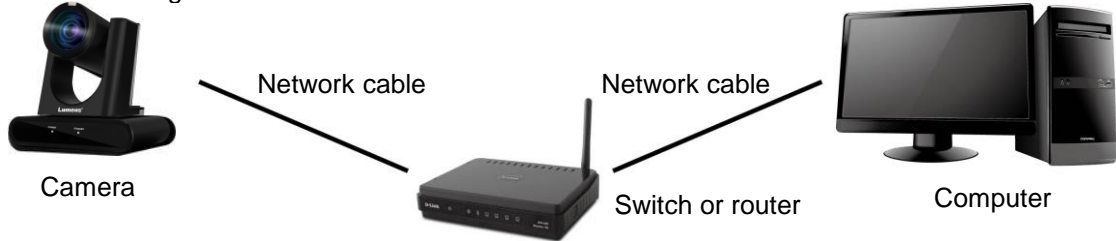
Chapter 5 Network Function Settings Description

5.1 Connecting Camera to Network

5.1.1 Connecting to Internet

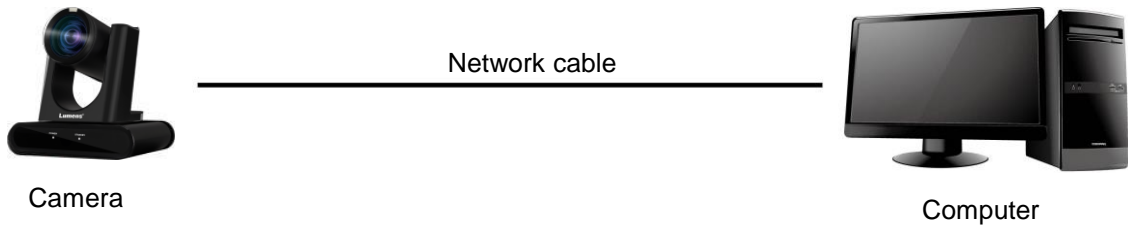
Two common connection methods are shown below

1. Connecting via switch or router

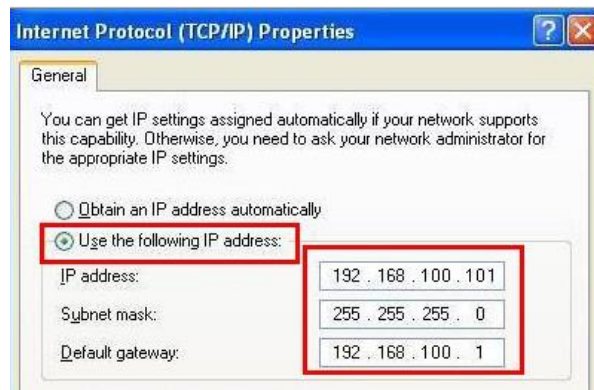


2. To connect directly through network cable, the IP address of the computer should be changed so that it is on the same network segment as the camera

E.g.: The factory-preset default IP address of the camera is 192.168.100.100. The computer IP address must be set with the same network segment, such as 192.168.100.101, so that the computer can be connected correctly with the camera



- Change network settings



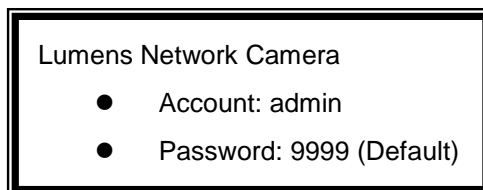
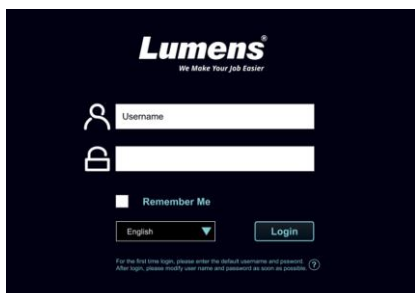
5.1.2 Using the Browser to View the Images

- Open the browser, and enter the IP address of the camera in the address bar

E.g.: <http://192.168.100.100> (default IP address)

- Enter administrator's account and password

<Remark> For the first-time login, please refer to [5.2.10 System Settings - User](#) to change the default password



5.1.3 Using RTSP Player to View the Images

RTSP connections can be made using free software, e.g.: VLC, Quick Time, PotPlayer, etc.

RTSP connection address formats are as follows:

- RTSP Stream 1 => <rtsp://camera IP:8557/stream1>
- RTSP Stream 2 => <rtsp://camera IP:8557/stream2>

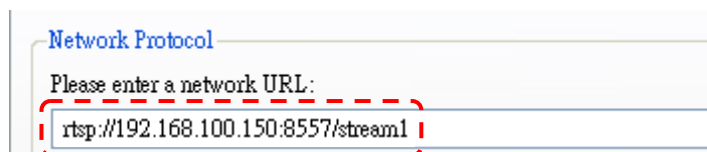
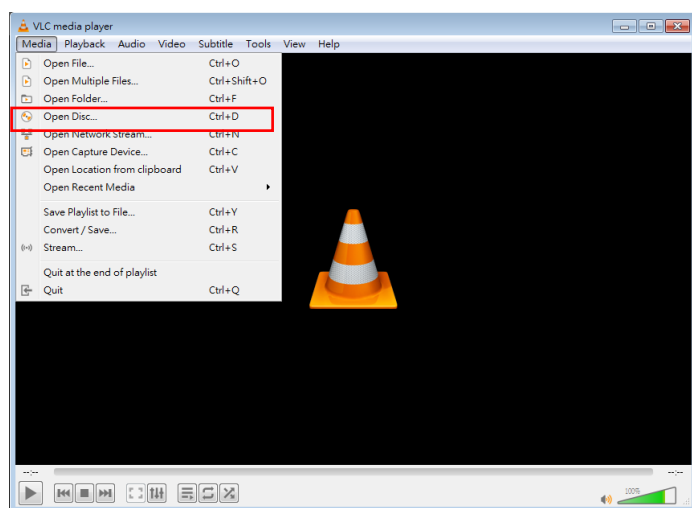
If password authentication is enabled, the RTSP connection address is as follows:

- [rtsp://Username:Password@VC IP address:8557/stream1 \(or stream2\)](rtsp://Username:Password@VC IP address:8557/stream1 (or stream2))
- To enable password authentication function, please refer to [5.2.8 System Setting - Network](#)

Example:

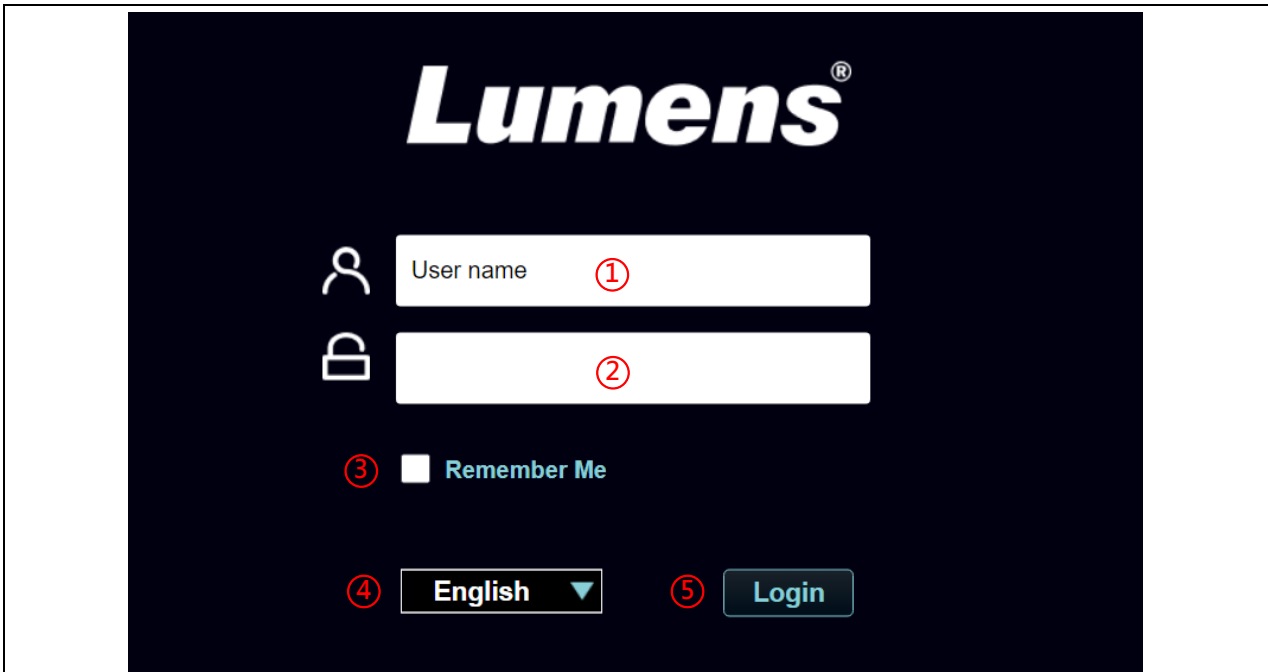
Open the VLC software, click [Open Network Streaming], and enter the URL:

<rtsp://192.168.100.150:8557/stream1>



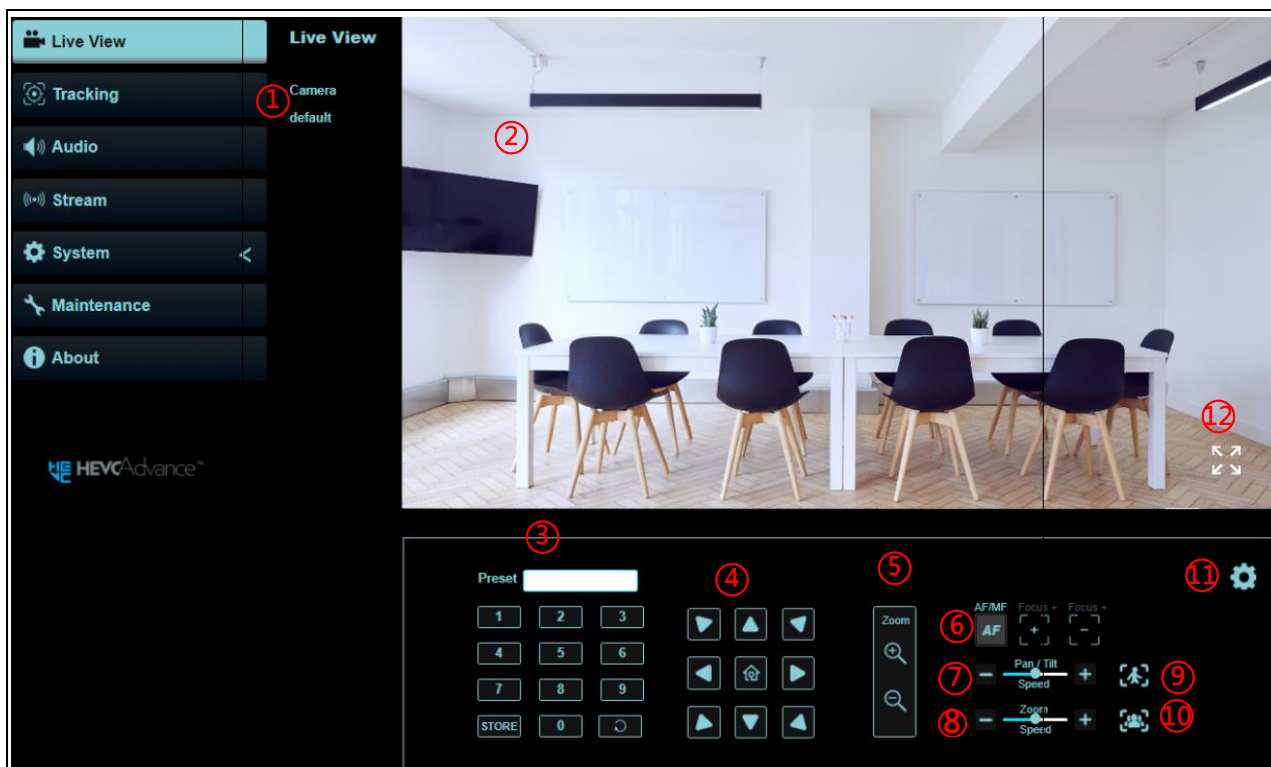
5.2 Web Page Menu Function Description

5.2.1 Login Screen



| No | Item | Function Descriptions |
|----|------------------------------------|--|
| 1 | User Login Account | Enter user login account (default: admin) |
| 2 | User Password | Enter user password (default: 9999) <Remark> For the first-time login, please refer to 5.2.11 System Settings - User to change the default password |
| 3 | Remember user account and password | Save user login account and password to the browser. When you log in next time, there is no need to re-enter them |
| 4 | Language | Supporting English/Traditional Chinese/Simplified Chinese |
| 5 | Login | Log in to the administrator screen on the website |

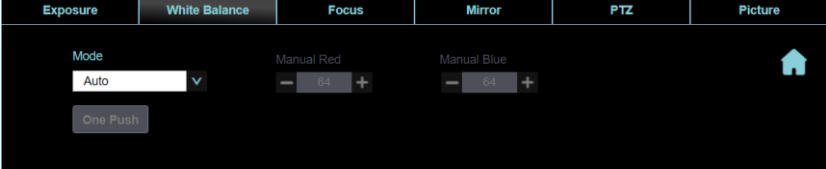
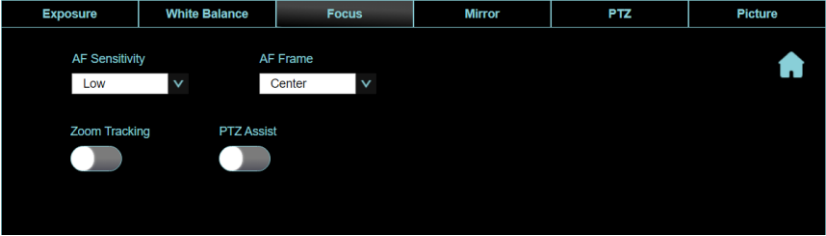
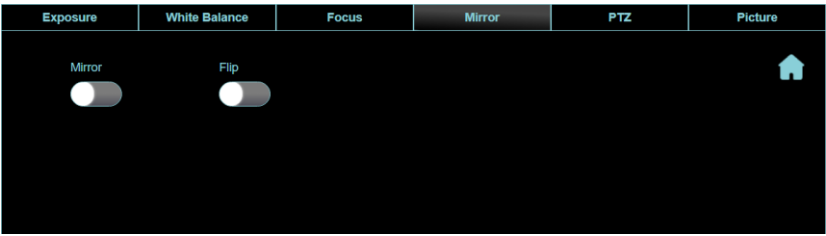
5.2.2 Live Viewer - PTZ Control

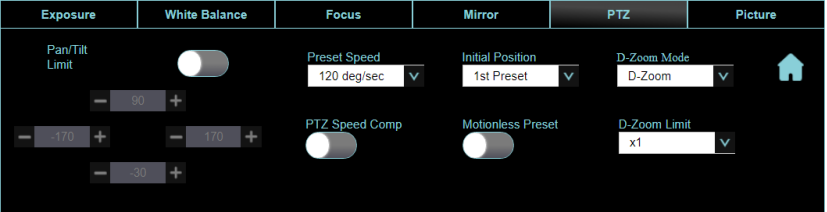
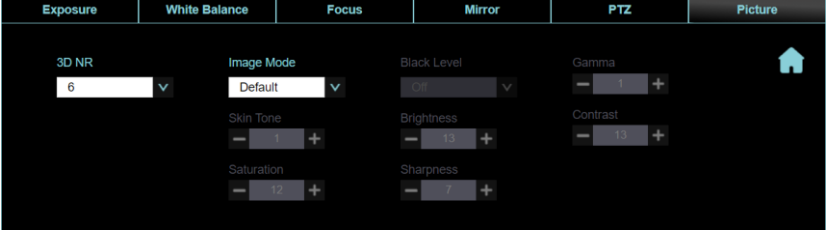


| No | Item | Function Descriptions |
|----|----------------------------|---|
| 1 | Camera ID/location | Display camera ID/location Please refer to 5.2.7 System - Device |
| 2 | Preview window | Display the screen currently captured by the camera |
| 3 | Preset setting | Select the number first and then select SAVE or LOAD |
| 4 | Pan/Tilt setting | Adjust the Pan/Tilt position of the camera screen |
| 5 | Zoom | Zoom In/Zoom Out ratio |
| 6 | AF/MF | Switch to Auto Focus/Manual Focus. Focus can be adjusted in Manual Focus |
| 7 | Horizontal/Vertical Speed | Adjust the horizontal/vertical moving speed of the lens |
| 8 | Zoom speed | Adjust the zoom speed |
| 9 | Auto Tracking | Enable/Disable Auto Tracking |
| 10 | Auto Framing | Enable/Disable Auto Framing |
| 11 | Camera Setting | Please refer to 5.2.3 Live Viewer - Camera Setting for related settings |
| 12 | Enlarge the preview window | Zooming in/out the preview image |

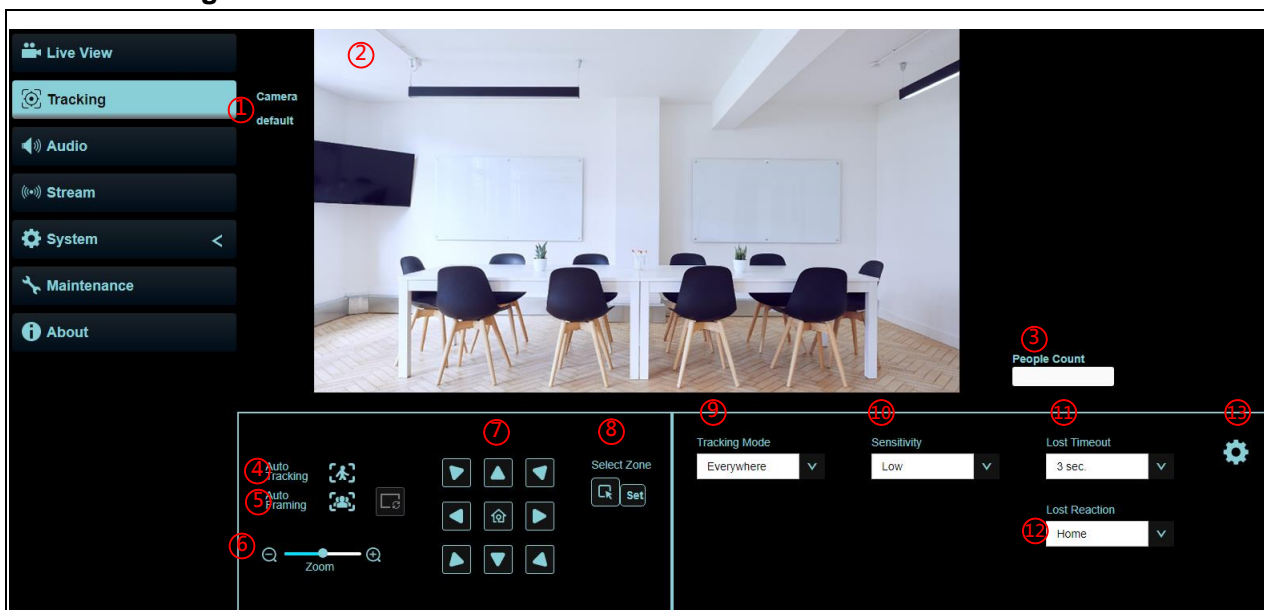
5.2.3 Live Viewer - Camera Setting









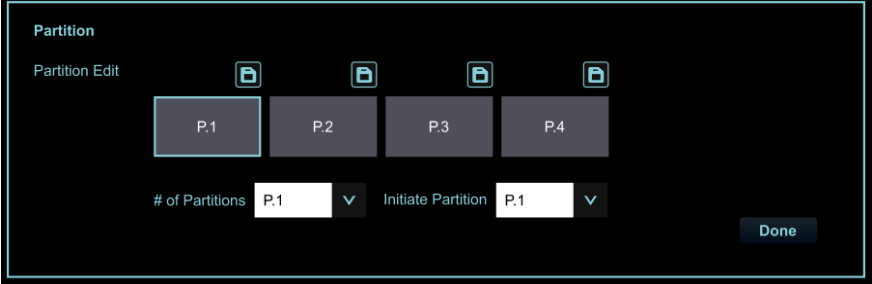
| No | Item | Function Descriptions |
|----|---------------|---|
| 1. | Exposure | <ul style="list-style-type: none"> ■ Mode: Select exposure mode (Full Auto/Shutter Pri/Iris Pri/Manual/ White Board) ■ WDR: Set the level of wide dynamic range (WDR) in order to obtain better images ■ HDR: Set the On/ Off of high dynamic range (HDR) in order to obtain better images ■ Exposure Comp. Level: Select exposure compensation level ■ Gain Level: Adjust the gain level (adjustable under the “Manual”) ■ Iris Level: Adjust the size of iris (adjustable under the “Manual” or “Iris Priority”) ■ Shutter Speed: Adjust the shutter speed (adjustable under the “Manual” or “Shutter Priority”) |
| 2. | White Balance |  <ul style="list-style-type: none"> ■ Mode: Select the color temperature mode ■ Manual Red/Blue: Adjust blue/red color temperature (adjustable under the “Manual”) ■ One Push WB: Single color temperature execution adjustment (adjustable only under the “One Push WB”) |
| 3. | Focus |  <ul style="list-style-type: none"> ■ AF Sensitivity: Set automatic focus sensitivity ■ AF Frame: Set automatic focus range ■ Zoom Tracking: The focus mode during lens zooming (can be set in “Manual”) ■ PTZ Assist: Check whether auto focus is enabled if there is any changes of PTZ (can be set in “Manual”) <p><Remark> When PTZ Assist is enabled and PTZ control is in operation, the focus will be triggered. The focus will not be triggered when the scene changes</p> |
| 4. | Mirror |  <ul style="list-style-type: none"> ■ Mirror: Set image mirroring ■ Flip: Set the mode at which the image is turned |

| | | |
|----|---------------------|---|
| 5. | Pan Tilt Zoom (PTZ) |  <ul style="list-style-type: none"> ■ Pan/Tilt limit: Enable, and set the pan/tilt limit ■ Preset Speed: Set the rotation speed of the cradle head when Preset is executed ■ Initial Position: Set the camera lens to return to the last MEM or the 1st Preset after POWER ON <Remark> 1st Preset= Preset 0 ■ D-Zoom Mode: Select D-Zoom/Sensor Zoom Limit ■ D-Zoom/Sensor Zoom Limit: Set the zoom limit ■ PTZ Speed Comp: After it is activated, the Pan/Tilt moving speed will vary from the zoom position ■ Motionless Preset: When the function is enabled, the screen will Freeze when Preset is executed. Freeze will be released after Preset is completed |
| 6. | Photo |  <ul style="list-style-type: none"> ■ 3D noise reduction: 3D noise reduction settings ■ Image Mode: The user may customize his/her desired image mode ■ Gamma: Gamma Level adjustment; Adjustable when the image mode is set to Custom ■ Brightness: Brightness adjustment of the image; Adjustable when the image mode is set to Custom ■ Contrast: Image contrast adjustment; Adjustable when the image mode is set to Custom ■ Saturation: Saturation adjustment of the image; Adjustable when the image mode is set to Custom ■ Sharpness: Sharpness adjustment of the image; Adjustable when the image mode is set to Custom |
| 7. | PTZ Control | Go back to PTZ Control page |

5.2.4 Tracking

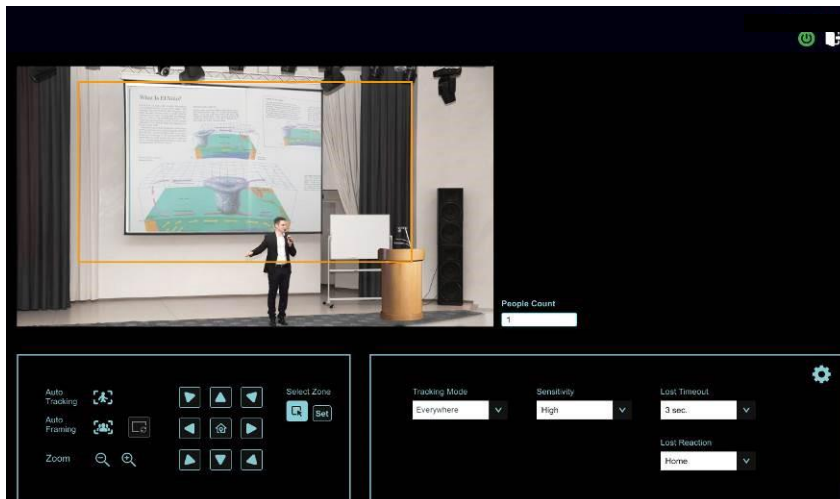




| No | Item | Function Descriptions |
|-----|-----------------------------------|---|
| 1. | Camera ID/location | Please refer to 5.2.7 System - Device to display camera ID/location |
| 2. | Preview window | Display the screen currently captured by the camera lens |
| 3. | People Count | Display the number of people in the screen automatically calculated by the system |
| 4. | Auto Tracking | Start/Stop Auto Tracking <Remark> Auto Tracking / Auto Framing (Select one only) |
| 5. | Auto Framing | Start/Stop Auto Framing The camera will automatically detect the locations of people, and automatically adjust the zoom to the most appropriate size to accommodate all the participants according to change of the number of people in conference. <Remark> Auto Tracking / Auto Framing (Select one only) ※If the image is not zoomed according to the actual number of people, please click  to perform framing correction. |
| 6. | Zoom ratio | Zoom In/Zoom Out ratio |
| 7. | Pan/Tilt setting | Adjust the Pan/Tilt position of the camera screen <Remark> When Auto Tracking / Auto Framing is enabled, PTZ settings are not supported |
| 8. | Select Zone | Click  and drag the mouse to select an area and then click  , the screen will be enlarged to the selected zone Click  again to cancel enlarging the selected zone |
| 9. | Tracking Mode | Set the Tracking Mode (Everywhere/Stage/Partition/Auto Framing) |
| 10. | Sensitivity | Set tracking sensitivity |
| 11. | Target Lost Time | Set a delay for taking action after a tracking object is lost |
| 12. | Target Lost Action | Set the action after a tracking object is lost |
| 13. | Advanced Setting of Tracking Mode | Advanced Setting of Everywhere / Stage / Partition Tracking |

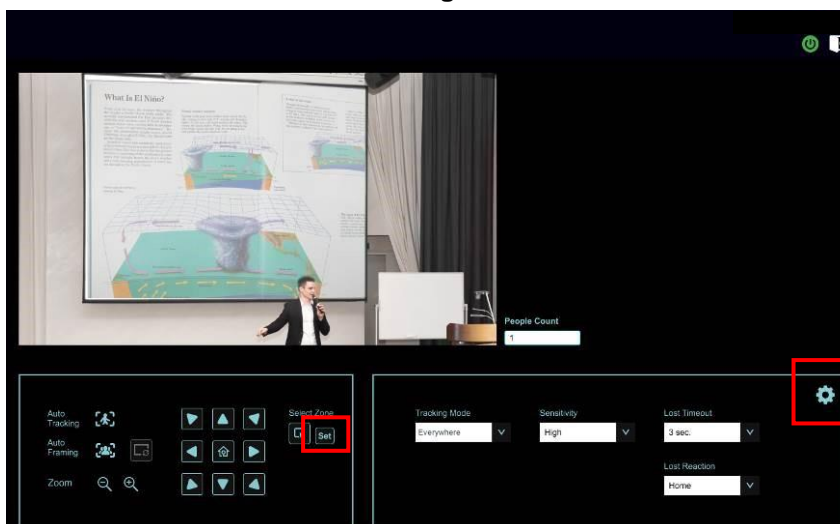
| | | |
|------|--------------------------|---|
| 13.1 | Settings - Everywhere |  <p>Please refer to 5.2.4.1 Everywhere for the setting steps</p> <ul style="list-style-type: none"> ■ Body Size: Set Full/Half Body ■ Body in Frame: Set the position of the person in the screen ■ Border Limitation Enable: Check to set the left/right border ■ Custom Home: When “Lost Reaction” is set as “Return”, you can customize the return position (only Pan/Tilt is memorized) |
| 13.2 | Settings - Stage |  <ul style="list-style-type: none"> ■ Set the left/right border of the stage. Please refer to 5.2.4.2 Stage for the setting steps ■ Custom Home: When “Lost Reaction” is set as “Return”, you can customize the return position (only Pan is memorized) |
| 13.3 | Settings - Partition | <p>Set Partition. Up to 4 zones can be set.</p> <p>When a person enters the zone of a partition, the camera switches to the partition. Tracking is not performed in the zone, but everywhere outside the partition</p> <p>Please refer to 5.2.4.3 Partition for the setting steps</p>  <ul style="list-style-type: none"> ■ Partition Settings: Edit, save partition positions and preview the partition image Click to enlarge the partition image, and then click the enlarge icon to cancel the preview. ■ Number of Partitions: Set the number of partitions ■ Starting Partition: Set the initiate partition position (First tracking position when camera start tracking.) |

5.2.4.1 Everywhere







1. Select [Everywhere] for Tracking Mode, and click  box to select an area (orange box)



2. After the selection, click  to set, and the preview screen will display the selected area, then click  to access the settings



3. Set the Left/Right Border

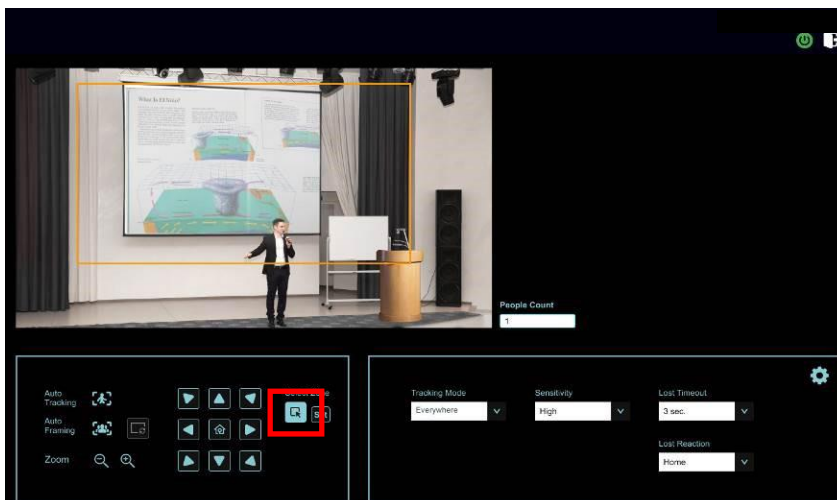
- Left Border: Click   to move the position and click  when finished
- Right Border: Click   to move the position and click  when finished
- Click **Done** to complete the settings after setting the left/right border



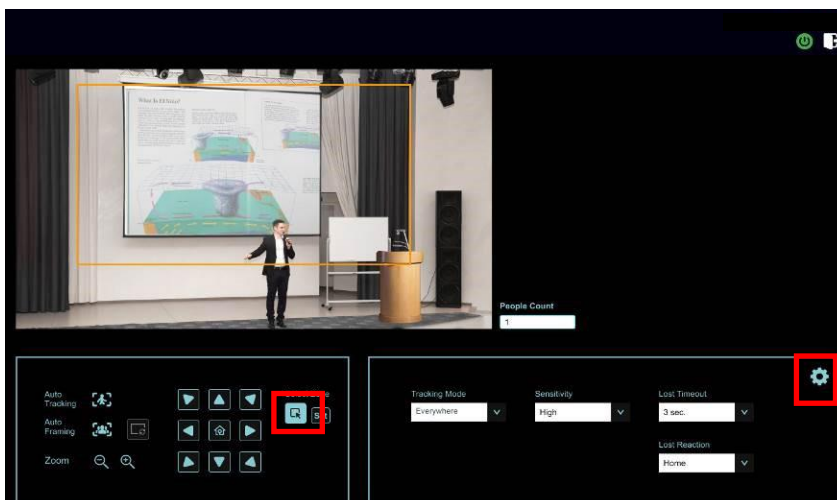
4. Click to enable the Everywhere feature

5.2.4.2 Stage

5. Select [Stage] for Tracking Mode, and click box to select an area (orange box)

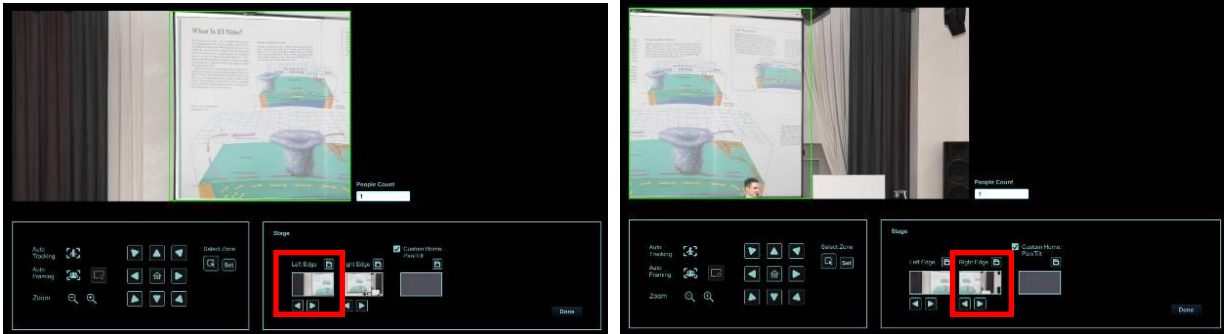


6. After the selection, click **Set** to set, and the preview screen will display the selected area, then click to access the settings



7. Set the Left/Right Border

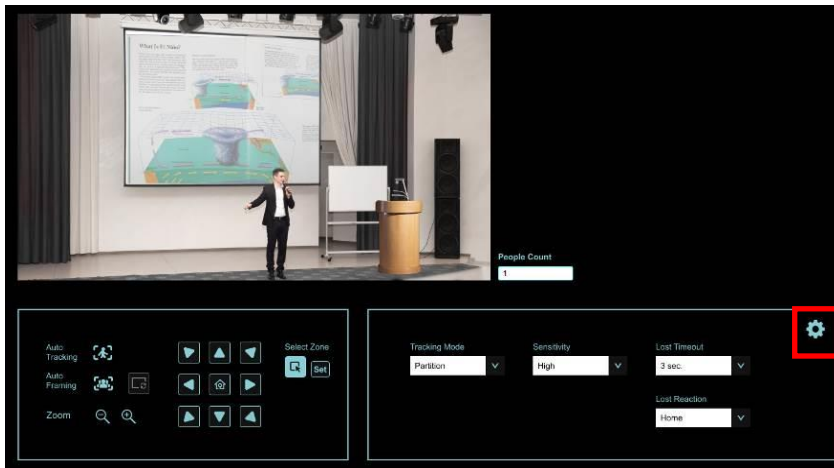
- Left Border: Click to move the position and click when finished
- Right Border: Click to move the position and click when finished
- Click to complete the settings after setting the left/right border



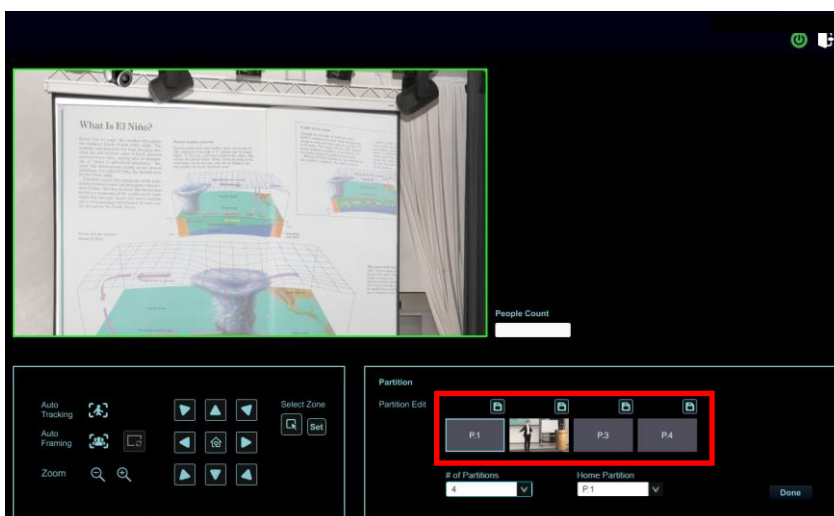
8. Click to enable the Stage feature

5.2.4.3 Partition

1. Select [Partition] for Tracking Mode, and click to access the settings



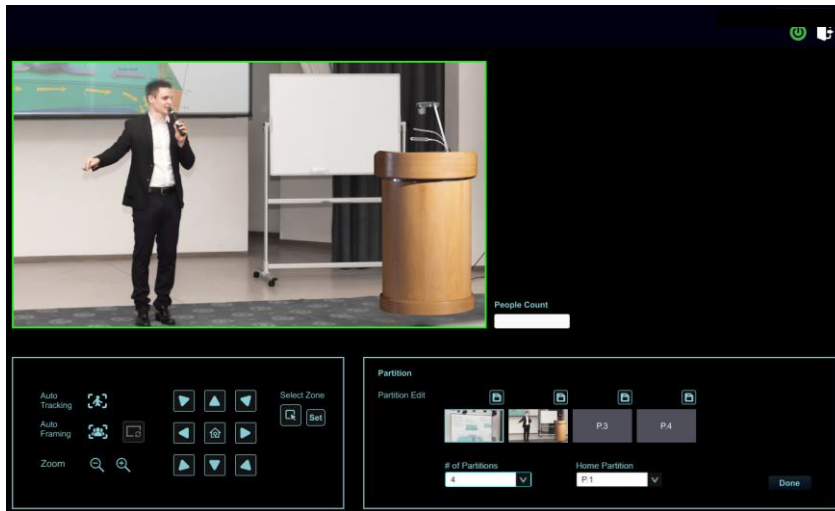
2. Use PTZ function to adjust to the screen to be partitioned, and then click to save. The partition icon below will be changed to the saved position



3. If you need to set other partitions, please continue using PTZ function to adjust the screen, and then click  to save

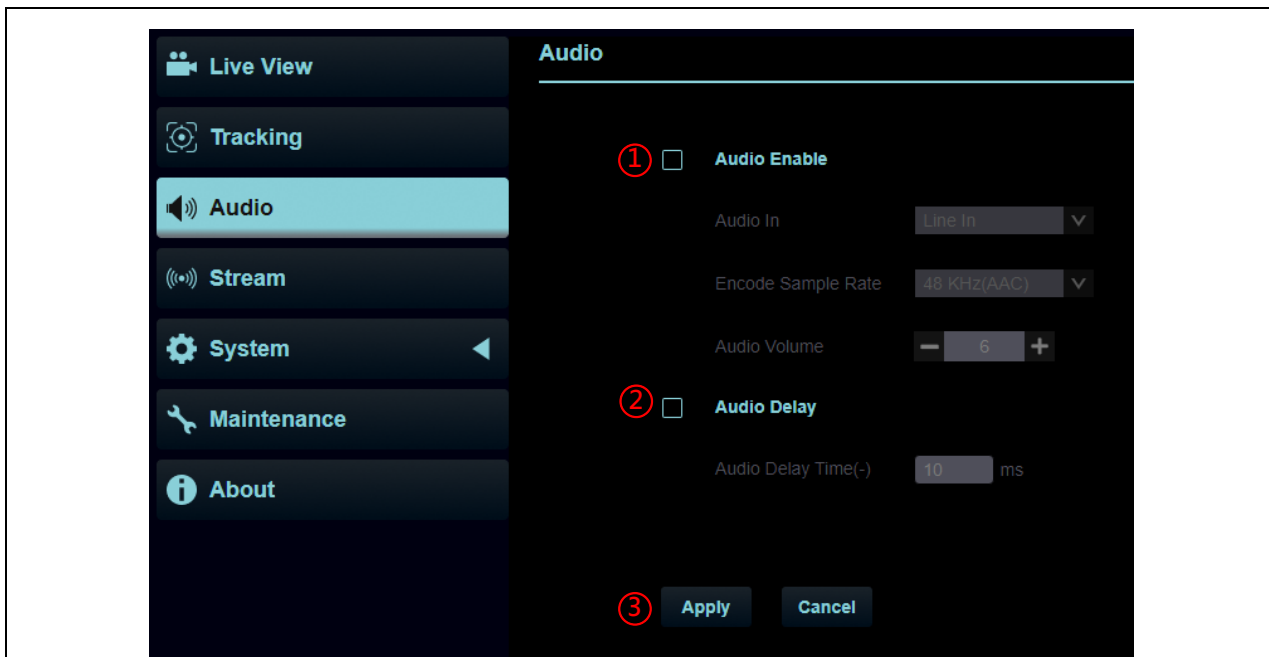
<Remark> If a red box is displayed when adjusting the screen, it means that the position overlaps with that of other partitions. Please adjust the screen again and save it when a green box is displayed

<Remark> Overlapping partition positions may cause abnormal tracking behavior



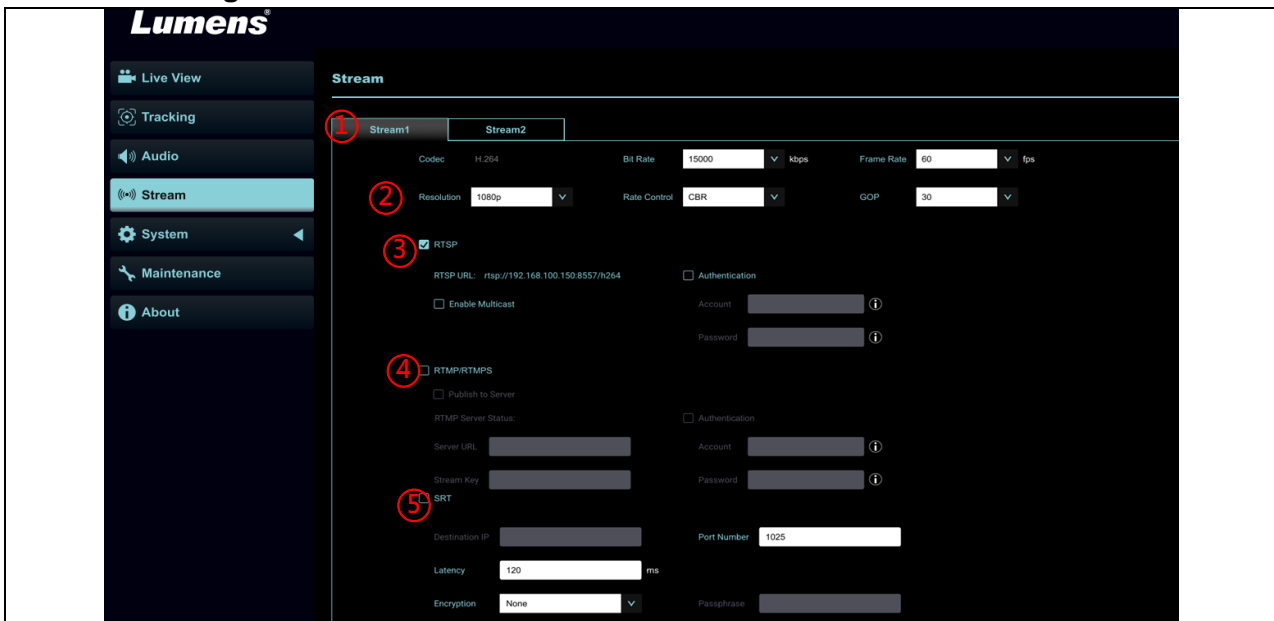
4. Click  to enable the Partition feature

5.2.5 Audio



| No | Item | Function Descriptions |
|----|--------------|--|
| 1 | Audio Enable | Select to enable Audio function <ul style="list-style-type: none"> ■ Audio In: Line In ■ Encode Type: AAC ■ Encode sample rate: Encode type and sample rate (48KHz) ■ Audio Volume: Adjust Audio Volume |
| 2 | Audio Delay | After checking the box, set the audio delay time (-10 ~ -500 ms) |
| 3 | Apply/Cancel | Apply/Cancel Audio Setting |

5.2.6 Streaming

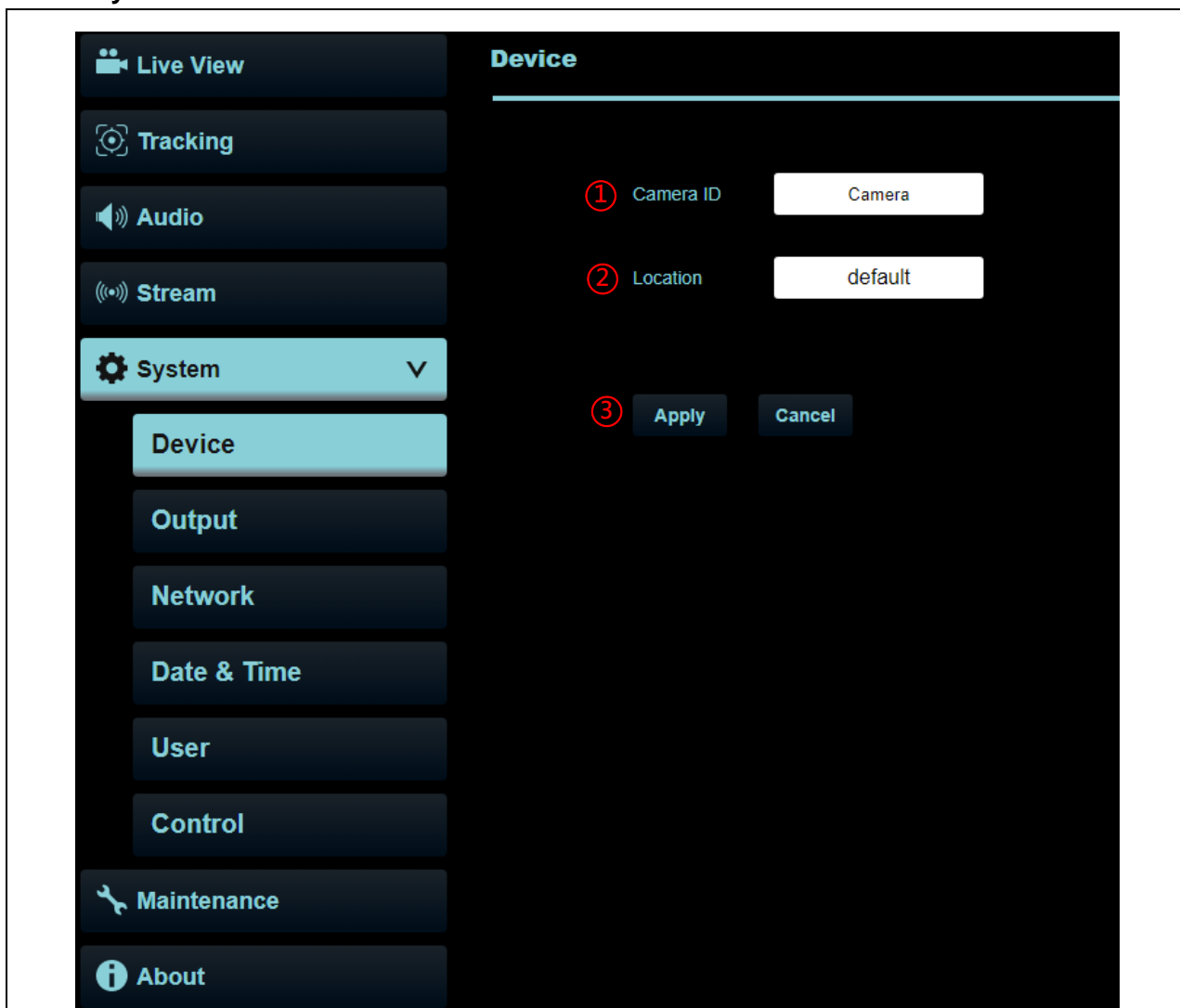


| No | Item | Function Descriptions |
|----|-----------------------------|---|
| 1 | Streaming 1/ Streaming 2 | Supporting 2-way streaming output |
| 2 | Streaming parameter setting | Please refer to 5.2.6.1 Streaming Parameter Setting for relevant settings |
| 3 | RTSP | <p>Select to enable RTSP</p> <ul style="list-style-type: none"> ■ Enable/Disable Multicast It is suggested to enable Multicast when the number of users online watching the live image simultaneously is more than 4 ■ Enable/Disable Username/Password Authentication <ul style="list-style-type: none"> ➢ RTSP connection format can be found in 5.1.3 Using RTSP Player to View the Images ➢ The username/password is the same as the web login password of the camera, please refer to 5.2.10 System Settings - User to add/modify account information |
| 4 | RTMP/RTMPS | <p>Copy the RTMP web address provided by the RTMP service platform and paste it to the RTMP connection address to publish the camera images on the RTMP service platform</p> <p>To upload to YouTube for live streaming, please refer to 5.2.5 Audio to turn on the audio function</p> |
| 5 | SRT | <ul style="list-style-type: none"> ■ Check to enable and set SRT streaming After the SRT streaming is opened, it will be connected automatically upon startup ■ The port number must be set in the range above 1024 with a maximum value of 9999 <Remark> The following ports are used by the camera. Setting of the port may not connect correctly 8554, 8556, 8557, 8080, 9090, 1935 ■ Delay time is for 20 to 8,000 microseconds. The default value is 120 microseconds |

5.2.6.1 Streaming parameter setting

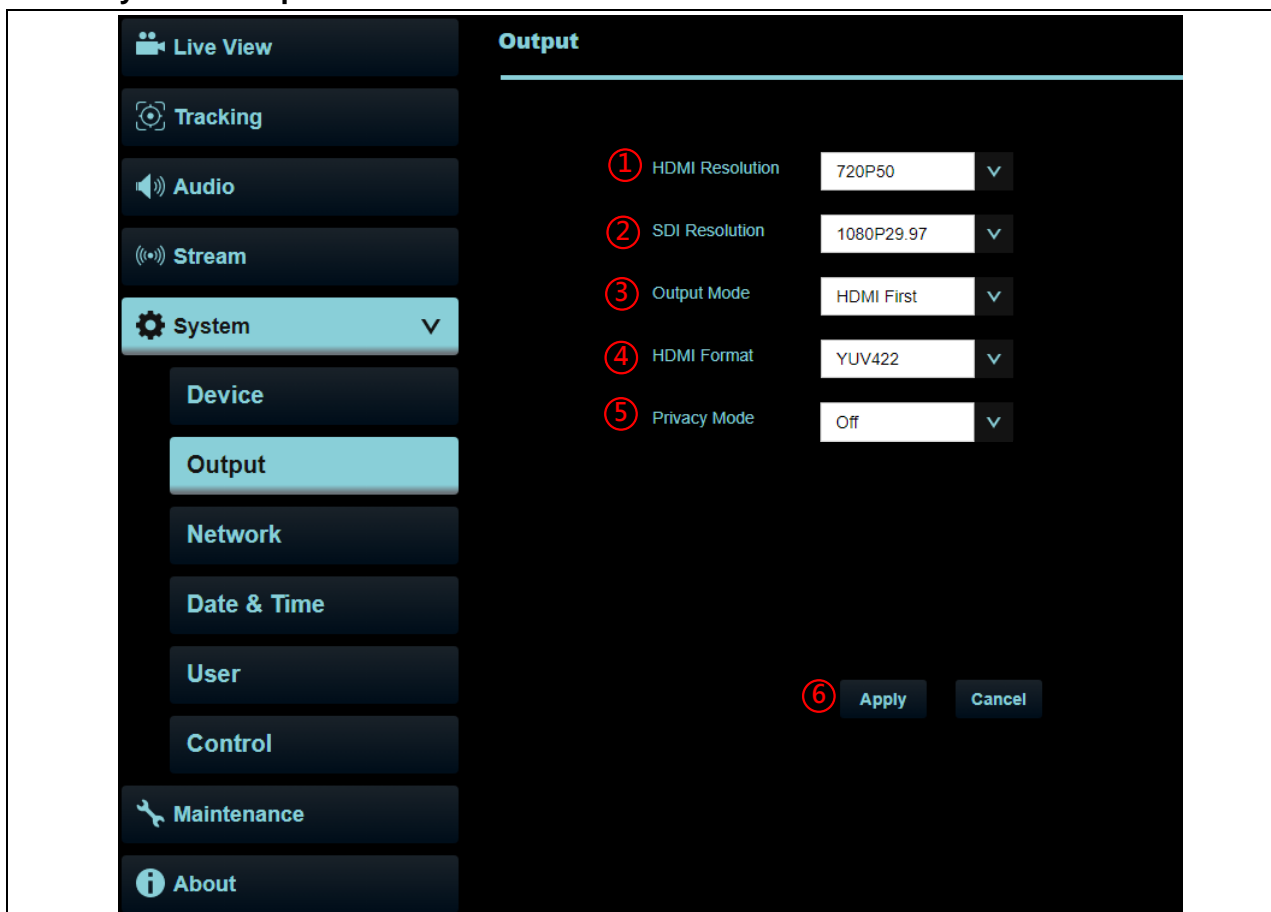
| Function | Streaming 1 | Streaming 2 |
|-------------------|---|--------------------|
| Encode Format | HEVC / H.264 | H.264 |
| Resolution | 2160 / 1080p / 720p | 720p / 480p / 360p |
| Bit rate | Range | 2,000~20,000 |
| | Factory Default | 15,000 |
| Rate Control | CBR / VBR | |
| Frame Rate | Setting according to the supported resolution | |
| Group of Pictures | Setting according to the supported resolution | |

5.2.7 System - Device



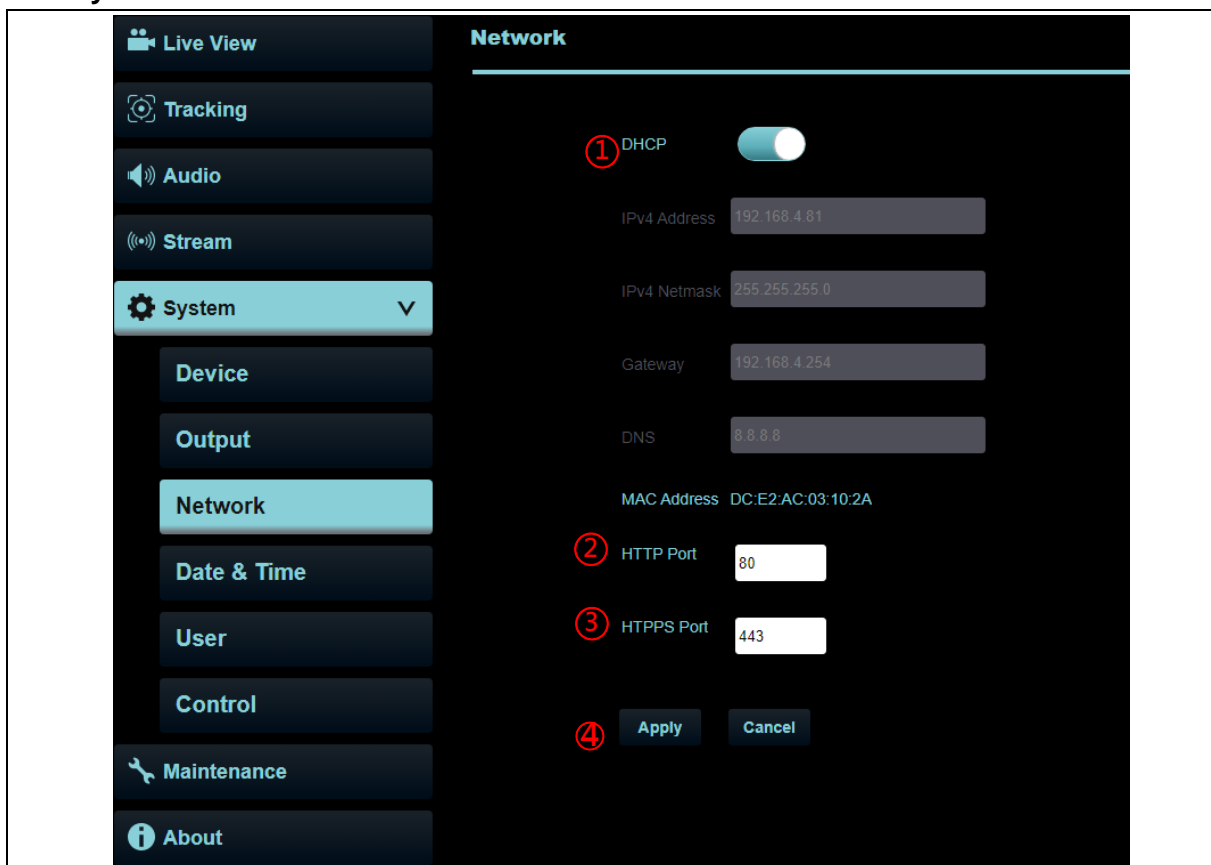
| No | Item | Function Descriptions |
|----|-----------------|--|
| 1 | Camera ID | <p>Change camera ID here</p> <ul style="list-style-type: none"> ■ Supporting 1 - 15 characters for the camera ID ■ Please mix uppercase and lowercase letters or numbers for characters. Special symbols such as “/” and “space” cannot be used <p><Remark> Modifying this field will modify the Onvif device name synchronously</p> |
| 2 | Camera Location | <p>Modify the location of the camera, such as Room 1</p> <ul style="list-style-type: none"> ■ Supporting 1 - 30 characters for the camera location ■ Please mix uppercase and lowercase letters or numbers for characters. Special symbols such as “/” and “space” cannot be used <p><Remark> Modifying this field will modify the Onvif device location synchronously</p> |
| 3 | Apply/Cancel | Apply/Cancel Setting |

5.2.8 System - Output



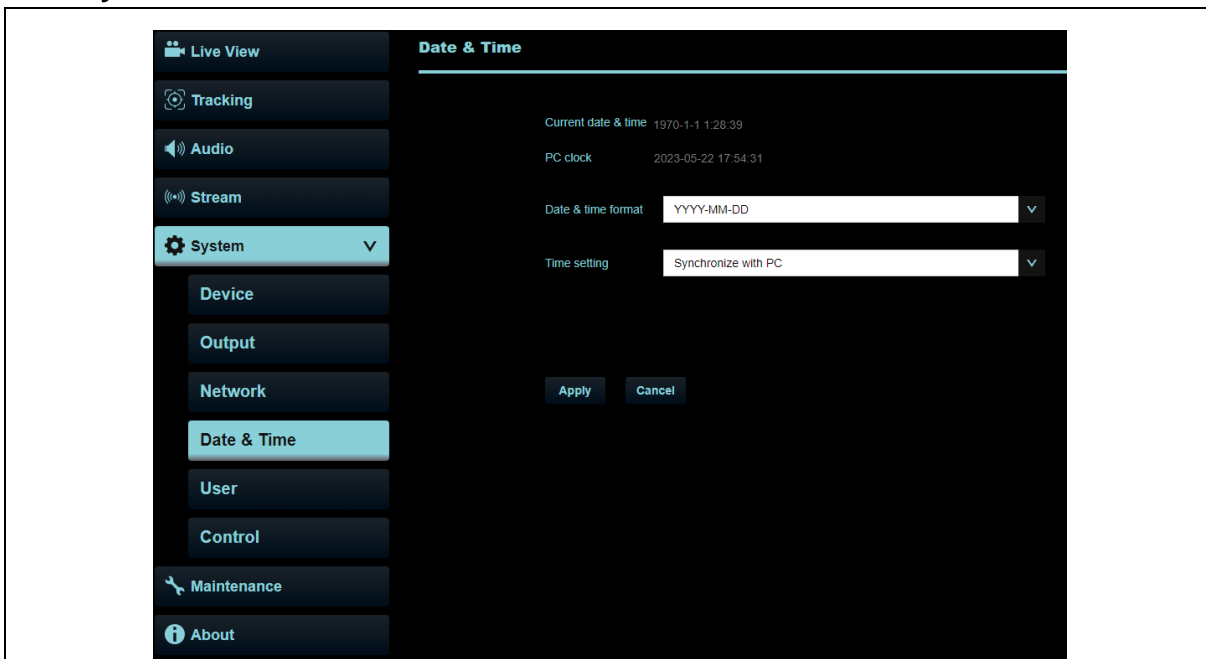
| No | Item | Function Descriptions |
|----|--------------------|--|
| 1 | HDMI Resolution | Set the HDMI output resolution After switching the resolution, the camera will restart. Please refresh the browser |
| 2 | SDI Resolution | Set the SDI output resolution After switching the resolution, the camera will restart. Please refresh the browser |
| 3 | Output Mode | Set HDMI First or UVC First HDMI First: HDMI Output 1080P@60, UVC Up to 1080P@30 UVC First: UVC Output 1080P@60, HDMI Up to 1080P@30 |
| 4 | HDMI format | Select YUV422/RGB |
| 5 | Privacy Mode (UVC) | On/ Off Privacy Mode After the function is enabled, when the camera is turned off via the remote control or software, the lens will automatically turn to the bottom right to ensure the user's privacy |
| | Dante AV-H | <Remark> Applicable to VC-TR60, Dante AV-H only Turn on/ off Dante AV-H |
| 6 | Apply/Cancel | Apply/Cancel Setting |

5.2.9 System - Network



| No | Item | Function Descriptions |
|----|--------------|--|
| 1 | DHCP | Network setting of camera. Change of setting is available when DHCP function is closed |
| 2 | HTTP port | Set HTTP port. The default Port value is 80 |
| 3 | HTTPS port | Set HTTPS port. The default Port value is 81 |
| 4 | Apply/Cancel | Apply/Cancel Setting |

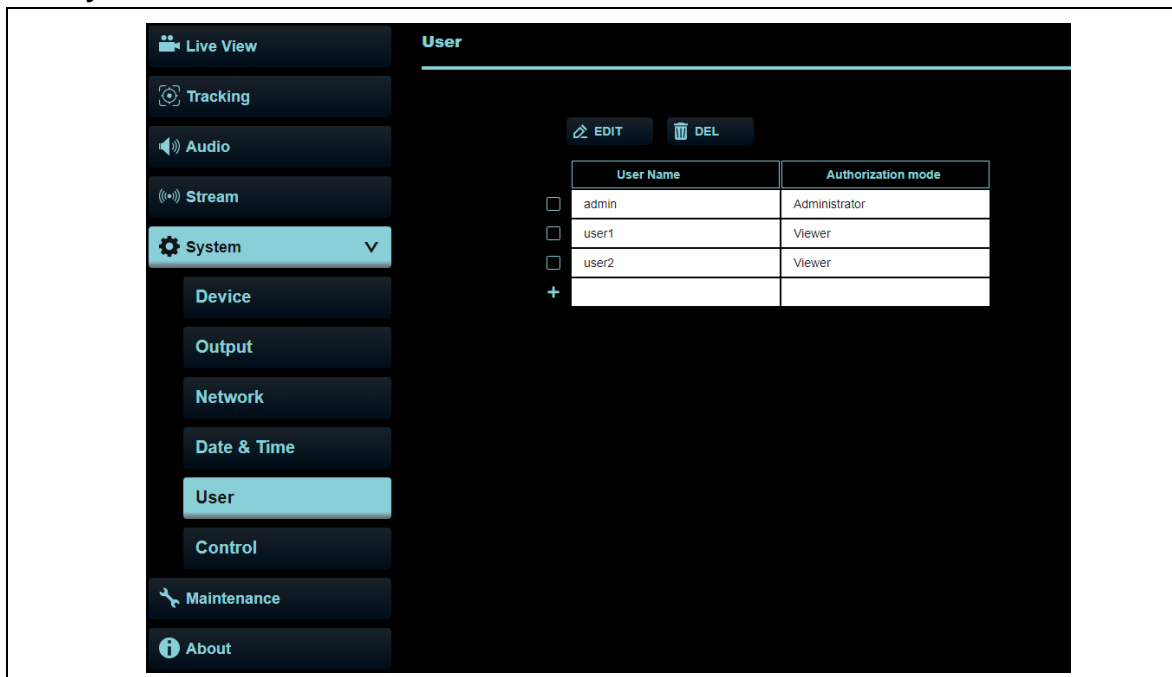
5.2.10 System - Date & Time



Function Descriptions

Display the current camera/PC date and time, and set the display format and synchronization way
When Manually Set is selected for [Time Settings], Date & Time can be customized

5.2.11 System - User



Function Descriptions

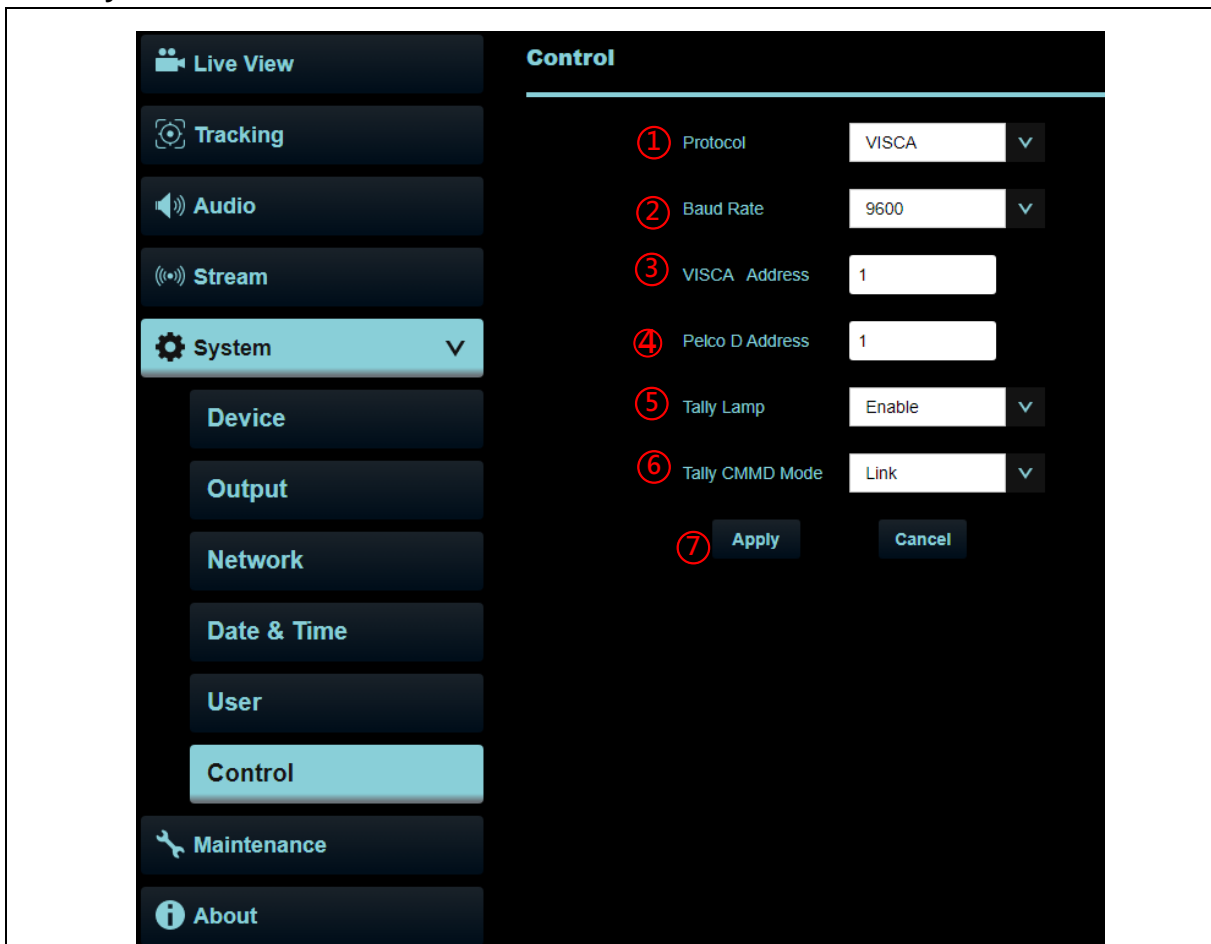
Add/Modify/Delete user account

- Supporting 4 - 32 characters for user name and password
- Please mix uppercase and lowercase letters or numbers for characters. Special symbols or the underlined cannot be used
- Authentication Mode: Set the new account management permissions

| User Type | Admin | Operator | Viewer |
|--------------------|-------|----------|--------|
| View images | V | V | V |
| Settings | V | V | X |
| Account management | V | X | X |

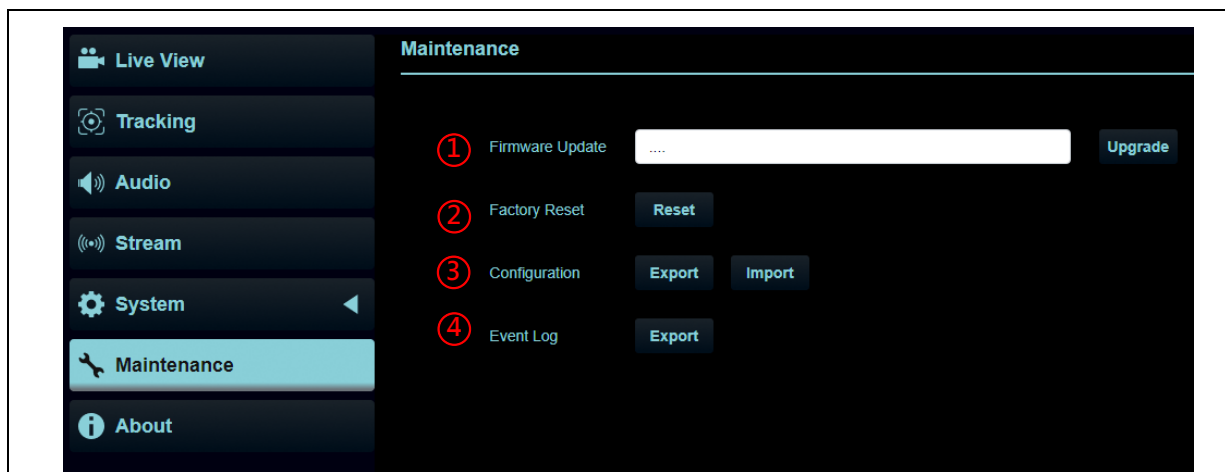
※When Factory Reset is executed, it will clear the user's data

5.2.12 System - Control



| No | Item | Function Descriptions |
|----|-----------------|--|
| 1 | Protocol | VISCA protocol is supported |
| 2 | Baud Rate | Choose the transmission speed of the control signal as 9600/38400 |
| 3 | VISCA address | The camera ID address 0 ~ 7 can be assigned |
| 4 | Tally Lamp | Enable/Disable Tally Lamp |
| 5 | Tally CMMD Mode | <p>Set whether the indicator light is linked with RS232 command</p> <ul style="list-style-type: none"> ➤ General (Not linked): The indicator light switch and mode shall be set separately. <ul style="list-style-type: none"> -When the indicator light is on and the default mode is off, additional command is required to set the indicator light mode -Setting the indicator light mode when the indicator light is off will not trigger the indicator light ➤ Link: <ul style="list-style-type: none"> -When the indicator light is on, the default mode is red light -Setting the indicator light mode when the indicator light is off will turn on the indicator light |
| 6 | Apply/Cancel | Apply/Cancel Setting |

5.2.13 Maintenance



| No | Item | Function Descriptions |
|----|-----------------|--|
| 1 | Firmware Update | Select the firmware file, and click [Upgrade] to update the firmware <Remark> Update takes about 2 - 3 minutes <Remark> Please do not operate or turn off the power of the device during the update to avoid firmware update failure |
| 2 | Factory Reset | Reset all configurations to factory default settings |
| 3 | System Settings | Save setup parameters as a Profile, and users can download and upload camera setup parameters |
| 4 | Error Log | If the camera operates abnormally, please export error log and provide it to Lumens for confirmation |

5.2.14 About




Function Descriptions

Display the firmware version, serial number, and other related information of the camera

For technical support, please scan the QRcode at the bottom right for assistance

Chapter 6 Troubleshooting

This chapter describes problems you may encounter while using VC-TR60. If you have questions, please refer to related chapters and follow all the suggested solutions. If the problem still occurred, please contact your distributors or the service center.

| No. | Problems | Solutions |
|-----|--|--|
| 1. | Boot without power signal | <ol style="list-style-type: none"> 1. Make sure you have plugged in the power cord. 2. When using a PoE connection, ensure that the power supply supports PoE (IEEE802.3at) hubs |
| 2. | There is no image output from camera | <ol style="list-style-type: none"> 1. Check the power supply or PoE supply functions. 2. Confirm the output signals are in streaming output. 3. Confirm whether the camera resolution can be used together with the monitor equipment 4. Replace the cables and make sure they are not faulty. |
| 3. | Camera image is severely delayed | Please use 1080p or 720p 60/50 fps rather than 25/30 fps signals |
| 4. | RS-232 cannot be controlled | <ol style="list-style-type: none"> 1. Confirm the connection is correct (RS-232 In/ Out) 2. Please make sure the VISCA setting is the same as the control equipment |
| 5. | Whether the Internet can be used for operation | Please refer to Chapter 5 Network Function Setting Description for the Internet usage |
| 6. | The ONVIF software cannot find the machine | Please make sure that [System] > [Device] > [Camera ID] / [Camera Location] on the web page uses only English letters or numbers. The ONVIF software cannot find the machine if you use special characters and the space |
| 7. | The camera does not save the relevant parameters (PTZ, AWB...) after reboot | <p>Please make sure if the Initial Position is set to Last Operated Position from the setting menu or web page</p> <p>Setting Menu: [System] > [Initial Position]</p> <p>Web page: [Live Viewer] > [Camera Setting  </p> |
| 8. | How to log in the portal when you forget your account password | Please contact your Lumens distributor or service center |

Chapter 7 Safety Instructions

Always follow these safety instructions when setting up and using VC-TR60:

1 Operation

- 1.1 Please use the product in the recommended operating environment, away from water or source of heat.
- 1.2 Do not place the product on a tilted or unstable trolley, stand or table.
- 1.3 Please clean the dust on the power plug prior to usage. Do not insert the product's power plug into a multiplug to prevent sparks or a fire.
- 1.4 Do not block the slots and openings in the case of the product. They provide ventilation and prevent the product from overheating.
- 1.5 Do not open or remove covers, otherwise it may expose you to dangerous voltages and other hazards. Refer all servicing to licensed service personnel.
- 1.6 Unplug the product from the wall outlet and refer servicing to licensed service personnel when the following situations happen:
 - If the USB port becomes damaged or frayed.
 - If liquid is spilled into the product or the product has been exposed to rain or water.

2 Installation

- 2.1 For security considerations, please make sure the standard mount you use is in line with UL or CE safety approvals and installed by technician personnel approved by agents.

3 Storage

- 3.1 Do not place the product where the cord can be stepped on as this may result in fraying or damage to the lead or the plug.
- 3.2 Unplug this product during thunderstorms or if it is not going to be used for an extended period.
- 3.3 Do not place this product or accessories on top of vibrating equipment or heated objects.

4 Cleaning

- 4.1 Disconnect all the cables prior to cleaning and wipe the surface with a dry cloth. Do not use alcohol or volatile solvents for cleaning.

5 Batteries (for products or accessories with batteries)

- 5.1 When replacing batteries, please only use similar or the same type of batteries.
- 5.2 When disposing of batteries or products, please adhere to the relevant instructions in your country or region for disposing of batteries or products.

■ Precautions



This symbol indicates that this equipment may contain dangerous voltage which could cause electric shock. Do not remove the cover (or back). No user-serviceable parts inside. Refer servicing to licensed service personnel.



This symbol indicates that there are important operating and maintenance instructions in this User Manual with this unit.

■ FCC Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

Notice :

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment..

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

■ IC Warning

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of Industry Canada.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe A prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques," NMB-003 édictée par l'Industrie.

■ EN55032 CE Warning

Operation of this equipment in a residential environment could cause radio interference.

Warning: Operation of this equipment in a residential environment may cause radio interference.

Copyright Information

Copyrights © Lumens Digital Optics Inc. All rights reserved.

Lumens is a trademark that is currently being registered by Lumens Digital Optics Inc.

Copying, reproducing or transmitting this file is not allowed if a license is not provided by Lumens Digital Optics Inc. unless copying this file is for the purpose of backup after purchasing this product.

In order to keep improving the product, the information in this file is subject to change without prior notice.

To fully explain or describe how this product should be used, this manual may refer to names of other products or companies without any intention of infringement.

Disclaimer of warranties: Lumens Digital Optics Inc. is neither responsible for any possible technological, editorial errors or omissions, nor responsible for any incidental or related damages arising from providing this file, using, or operating this product.